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ON THE COVER

At age 15, Rick Trunkett laid down \$1,450 for his '72 Duster, and hasn't looked back.

Starting as a slant-six with a three-speed manual, the little Plymouth has been reborn in increasingly potent incarnations, culminating in the fire-breathing 1,100hp turbo monster that won our 2015 Dyno Showdown at the 2015 Mopar Nats. Not only does the mostly stock suspended chassis lay down 8-second quarter-miles with small tires, it's also a calling card for Trunkett's speed business, Big 3 Performance. Photo by John Machaqueiro



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IS THE 'CUDA REALLY COMING BACK?!

There is a saying: "Fool me once, shame on you. Fool me twice, shame on me." Sometime in 2013, we heard what we thought was reliable intel that the Barracuda was coming back.

we thought was reliable intel that the Barracuda was coming back. Our supersecret inside source swore it was true, and we ran with it. What we ended up getting was the Hellcat and the value-leading Scat Pack. No complaints here, but we had our hearts and minds set on a 'Cuda. Since the Hellcat had 707 hp (and the Scat Pack 485 hp), we quickly got over it, living life in a 'Cuda-free world.

But then we heard tantalizing news out of the FCA dealer council meeting, which happened in Las Vegas this past August. All kinds of rumors hit the Internet the moment the Mandalay Bay convention center doors swung open. You'd have thought these fine, upstanding stealership managers would've hewed to their hard-earned reputation for integrity by honoring their vow of secrecy. Ha! It was more like a scene from a '50s movie, where a mob of newspaper reporters rush to the nearest pay phone to file their report for the afternoon edition. By day's end, every message board on God's green earth had news of the 'Cuda.

Some websites reported that FCA had actually shown a car. Others even said it was a convertible. Still, others said there was no car, but FCA management said the car was real and it was coming. Understand, the info was coming from people who are just one bad decision away from hanging sheetrock; the news was long on rumor, and short on fact. If we deconstruct everything and look at what we actually know, we might be able to glean some real knowledge.

The argument for a new Barracuda hinges on the advent of Alfa Romeo's new Giulia. A competitor to the Audi A4, BMW M3, and AMG C63, the Giulia is a four-door, rear-drive sport sedan that makes—in top Quadrifoglio form—505 hp by means of a twinturbo V-6. Its body lines and proportions are good but not great, and the car is coming to the United States as a 2016 model. The Giulia's weight—around 3,325 pounds—is significantly pared through lightweight alloys and carbon fiber to produce 0-60 times around 3.8 seconds. Also, it's said to have lapped the Nürburgring in 7:39—faster than a Lamborghini Murcielago and a Camaro ZL-1. That's the good news. The bad news is that the Giulia's price starts around \$89,000 and goes well into the six-figure range in Quadrifoglio trim.

If we assume FCA wants to spread the cost of their new Giulia chassis across the portfolio, then it might seem a good idea to build some Dodges off of it. If we strip away the pricey lightweight alloys and carbon fiber, and build them in greater number, FCA may be able to bring it to market with a Dodge price. To do that, they'd have to allow the weight to swell another quarter ton or so by using steel instead of aluminum, magnesium, and carbon fiber. Even with a cost-cutting weight-gain program, a theoretical Challenger/Charger replacement isn't going to be cheap. If it's less than half the price of a base model Giulia, it'll top \$40K.

Did I say *replacement*? Yep. If, once again, car salesmen with a penchant for Vegas strippers can be taken at their word. It appears FCA is going to give the current Charger and Challenger (the LX platform) a dirt nap. Website scuttlebutt is the Hemi V-8 will also get Red Bull wings, and float up to heaven. Our hope then rides on Dodge being able to dumb down the Giulia enough to make it affordable, while keeping the blood pumping with enough 'merican



We floated this rendering of a rumored Dodge 'Cuda in 2013, but all the whispering turned out to be wrong. Now, some Dodge dealers claim FCA showed them a 'Cuda prototype in August at Chrysler's dealer council meeting in Las Vegas. Show of hands: how many of you believe what a dealership tells you? Pics, or it didn't happen.



If a 'Cuda does happen, it would have to be based on this improbable machine: the four-door Alfa Romeo Giulia. At 3.8 seconds 0-60, it's fast, but you need to squint real hard to see "Barracuda." At \$109,000 (what the Quadrifoglio goes for) you could buy a Viper, build a garage to park it in, and still have enough left to hit McDonalds.

power and style to appeal to existing customers like us. The marketing and engineering teams will really have to be of the same mind to come anywhere close to recreating the runaway success of the V-8 Hemi in the LX platform.

This brings us to ponder a couple of things: Can a 'Cuda or Charger be a success without a V-8? Should it even bear the Barracuda or Charger name? Would you buy a \$40K ponycar coupe that didn't have a V-8, and that may not actually have the 'Cuda or Challenger name on it? At that point, why not just buy the Alfa Romeo and enjoy the windfall of all the snob appeal? FCA has told the media that it intends to increase worldwide Alfa Romeo production by a whopping 540 percent—a number that seems to have been invented under the influence of methamphetamine. Even under ideal market conditions, that's a difficult ask if you're also selling the same car as a Dodge for half that price. Only time will tell. Until then, we won't be fooled again by ghost 'Cudas. We'll be saving our pennies for a down payment on one of the last 392 Scat Pack Challengers, which looks to be the 2017 or 2018 model year.

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GETTING IN LINE

THE OUTCOME OF A GOOD PAINTJOB DEPENDS ON SWEATING THE FINER DETAILS. PERFECT PANEL ALIGNMENT IS WHERE IT ALL STARTS.

opinion, the '69 Dodge Charger is one of the most gorgeous cars to ever come off of Ma Mopar's assembly line. It's a stunning shape with smooth, undulating body lines accented by door scallops that evoke the feeling of fighter jet inlets. The design is timeless, and while the body lines are subtle, closer inspection will show them to be complex.

When last we left our Charger, Scott Dowdy of The Finer Details had just finished up replacing, smoothing, and prepping the firewall. The next step in the process of getting our B-Body ready for paint is to align the body panels. If you've never done it, be warned it can be an arduous task, particularly on a car like this, which has had a rough history. The car is a little bit of a Frankenstein with its original metal, aftermarket panels from AMD, and original parts hijacked off other cars. We're not saying that getting all of those sexy Charger lines to be uniform was a nightmare for Dowdy, but it wasn't quick or easy either.

"Whenever you set out to align a body panel—any body panel—you need two

very important things," Dowdy says. "Patience and a boat-load of shims." The real trick is that there is no set formula for hanging a body panel and getting it perfectly straight. It's a lot of trial and error. You can't just tighten down the first bolt and then proceed to the next one in a clockwise fashion. You could, but there is a 99 percent chance that the panel will come out all warped. The proper way to do it is to tighten the bolts down gradually in an opposing direction. In other words, whatever bolt you start with, the very next one to get snugged should be its direct opposite, it's similar to tightening cylinder head bolts or beadlock rings on racing tires except for one difference. There is no set pattern to follow. Every panel is different, and every car is different. In fact, you could have two '69 Chargers sitting next to one another and the front fenders will require different tightening patterns. Like we said, it's all trial and error.

Let's use the Charger's right front fender as an example. It is held in place by 13 bolts. Each one of those bolts could require any number of shims to get it properly hung, so you'll need to have a pile of different sizes at the ready. The



When Scott Dowdy of The Finer Details hung the passenger-side door, it didn't line up correctly with the rear quarterpanel. The blue chalk line was traced down the lip of the quarter-panel so that he had a point of reference to make the gap even.



A big culprit of why the door appeared sucked in further than the rear quarterpanel was the location of the door striker pin. From the factory these strikers can be moved slightly inboard and outboard in order to get the door and quarter-panel to align. In our case, however, with the striker slid all the way outboard the door was still sucked in as shown in the previous picture. Dowdy's solution was to extend the holes outward to allow the striker to be closer to the edge of the door jamb.

first step is to snug the bolts down gently and begin adding shims until you get the panel looking pretty even all the way around. Then, you begin to tighten down each bolt, paying careful attention to how the panel acts as the bolts get tighter. Oftentimes as you tighten the bolts the panel will suck in on itself and become out of alignment. This is where you need patience because you could find yourself repeating the whole process, having to change the order in which you tightened the bolts in round one to something

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completely different in round two.

It is extraordinarily helpful to have another person assisting you in the process. One person can hold the panel while the other tightens it down. It's also a major benefit to have a second set of eyes looking at the panel to ensure that when it does alter shape you can quickly adjust. And trust us, it will alter the shape. Professionals like Dowdy can hang a fender by themselves but for the rest of us it is sure helpful to have an extra set of eyes and arms.

You can go through multiple gyrations to get one panel hung, and it might look decent, but upon closer inspection you find that it's not perfect. And to get it perfect you have to take some more drastic measures, like cutting, bending, filling, and grinding. As you can see in the pictures, Dowdy actually had to do that on our Charger's driverside rear quarter-panel.

Hanging and aligning body panels is a time-consuming task in any restoration, so you need to plan to spend the time and keep your cool. When you step back from the finished product you'll realize that in the end all of the effort was worth it.



Three screws hold the striker receiver in place on the door. You can also see a shim placed behind the receiver.



With the striker further outboard, the door aligns perfectly with the rear quarter-panel. Dowdy essentially is working from the back of the car toward the front since the rear quarter-panel is already hung and welded in place.



The next step is to hang the passengerside front fender onto the car. It would be nice if Dowdy's helper would give him a hand here, but hey somebody has to take the picture!





There are two things you need when hanging body panels: patience and a whole bunch of these things. Shims come in a variety of shapes, sizes, and thicknesses. If you're planning on tackling this on your own have plenty of these handy.



This is a perfect example of how extreme you might have to go to get the perfect alignment on an old car like this. That's three shims in this picture, equaling close to a quarter of an inch. In the game of aligning body panels, that's pretty huge.



Dowdy snugs down one of the 13 bolts that hold the fender on using an air wrench. You can see that he used a different number of shims behind each of these two bolts, a necessity to get the panel perfectly aligned. This is actually a shot from the driver-side front fender but you get the idea.



The driver-side door of this car was a little bit of a different animal. From this vantage point, it doesn't look too bad. The pieces of yellow tape are actually holding spacers in key locations that allow Dowdy to get the gap at just the right spacing from the door to the quarter-panel.



The driver-side door actually sits higher than the rear quarter-panel it's supposed to match, but it's not as simple as the angle of how the door hangs. Go back to the side shot of this door and notice that the gaps from top to bottom look pretty good. No, the problem is elsewhere.





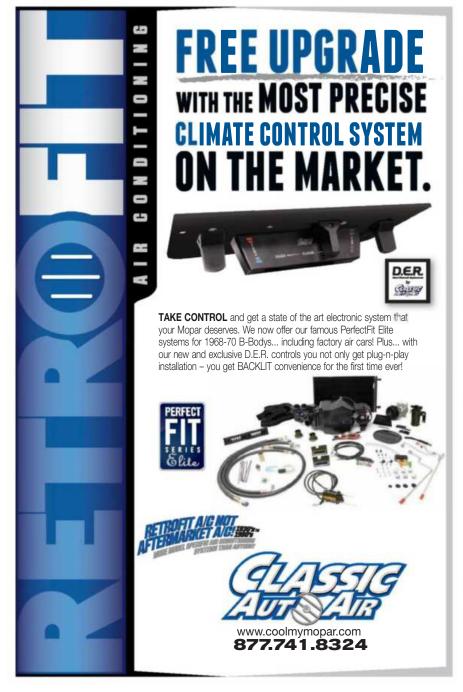
When the original rear quarter-panel was welded to the roof, the process caused a slight variation in the way the panel hangs, causing a difference in the width of the top of the panel. This kind of misalignment, while small, is completely unacceptable to the crew at The Finer Details and would never make it out of their shop.



The solution is simple, but does require some skill. Dowdy breaks out the cutoff wheel and makes two nearly foot-long slices in the rear quarter-panel, one on the top as you see here.



The other is along the side. Here, you can see the tack weld he put in to ensure the alignment was correct before beginning to fill the gap with a weld bead.





Dowdy filled both cuts with a bead then ground them smooth with a grinding wheel. Here is the result: a perfectly aligned panel worthy of The Finer Details high standards.



Looking down from the top you can tell just how perfect the alignment of the door to the rear quarter-panel actually is.

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SUPER B

THE AFFORDABLE AND UNDERRATED 383 GETS A HUGE BOOST IN THE ARM BY MUSCLE MOTORS—TO THE TUNE OF 559 HP AND 611 LB-FT.

BY STEPHEN KIM 🗘 PHOTOGRAPHY BY SHANE BROYLES

The small

engine in any car manufacturer's portfolio has a hard time getting any respect, and the same is true within the Chrysler brand. Take for instance the current Pentastar V-6. With variable valve timing, dual overhead cams, cylinder deactivation, amazing fuel efficiency, and as much as 305 hp in Challenger trim, this little powerplant ought to elicit "oohs" and "aahs" from motorheads of all stripes. Nope. We're understandably starstruck with the supercharged 707hp Hellcat Hemi. Recognition for the little V-6 usually runs

along the lines of "Penta-huh?" Nevertheless, it's still quite the engineering and manufacturing triumph.

Not much was different back in the 1960s within Chrysler's "B/RB" series of big-block engines. With the spotlight burning brightly on tall-deck Max Wedges, Hemis, and 440s, the 383 "B-deck" was the undersized and underappreciated runt of the litter. While that initially relegated the 383 to the kid's table come dinnertime, the tide has turned. In the intervening half-century, those Maxies, Hemis, 440s—and even 400s—have become increasingly rare and pricey for meat-and-potatoes enthusiasts. Muscle Motors gets

it, and having seen the potential in the 383, has worked hard to make it a potent and affordable alternative to a 400, or as we shall see, even a breathed-on 440.

In conjunction with *Mopar Muscle* magazine and Carlisle Events—the promot-

ers of the Chrysler Nationals—we agreed with Mike Ware of Muscle Motors that this would be a good opportunity to prove the validity of a 383-based 450 as the basis for the annual giveaway motor at the 2015 Chrysler Nationals in Carlisle, Pennsylvania. Not knowing the eventual car it would end up in or the end use, a robust and reliable big-inch low-deck wedge with mountains of torque at low and midrange rpm seemed just the ticket. To that end, Ware took a 383 block, stroked it to 450 ci, and unleashed 559 hp and 611 lb-ft on

the unsuspecting crowd assembled for the Carlisle giveaway ceremony. Like the scrappy little kid that defies the odds to make the Varsity team, this is one B-series motor that punches far above its weight. To help illustrate the practicality of a 383based build, Mike told us: "Exact production numbers are hard to come by, but Chrysler only built 400,000 or so 440s. Even the 400 blocks are getting harder to find. On the other hand, Chrysler built over two million 383 engines, making it the most cost-effective starting point for a big-block build. You can pick up a 383 block for a couple of hundred bucks all day long. For this build, we wanted to show the viability of the 383 block and highlight its potential as a performance street engine."

Granted, cheap blocks are enticing for anyone looking to save a buck, but the 383's underserved boat-anchor reputation can prove difficult to shake. After all, the tall-deck RB's 10.725-inch deck height helps it swallow up a 4.500-inch crank, and the 400 block makes up for its shorter 9.980-inch deck height with a massive 4.340-inch bore. As a result, RBs can be stroked to 543ci with ease. while even a low-deck 400 block can reach 512 ci. So where does that leave the 383? Mike says, "Most people think that the 383 block is too small and it isn't a good platform for a stroker motor. It definitely has a red-headed stepchild reputation, but you can build them up to 450 ci very easily, and a 4.250-inch stroke puts them right at 496 ci."

The similarity to a stroked big-block Chevy isn't coincidental—insofar that it's all about bore and stroke dimensions. To put things into perspective, 454 Chevys came equipped with 9.800-inch decks



Although the 383 block doesn't get much love, it can easily be stroked to 496 ci. To prep the foundation of this 450ci build for assembly, Muscle Motors bored, honed, decked, and align-honed a plain-Jane factory 383 block.



Expanding the displacement capacity of the 383 block is a Molnar 3.910-inch forged crank and 6.700-inch steel rods matched with Ross -9.9cc pistons. Muscle Motors internally balanced the rotating assembly by removing mass out of the front counterweight.



After setting the main bearing clearance to .0028 inch and the thrust to .004 inch, the crank was secured into place using ARP main studs. At this power level, two-bolt main caps are more than sufficient.



With the COMP hydraulic flat-tappet camshaft and doubleroller timing set in position, Muscle Motors technicians degreed the cam at a 106-degree installed centerline. Although the cam is ground on a 110-degree LSA, the additional four degrees of advance further enhances low-end torque.



To minimize piston slap and ensure quiet operation, piston-to-wall clearance was set at .0045 inch. In addition to netting a favorable 1.71:1 rod-to-stroke ratio (with 6.700-inch rods), another benefit of limiting the stroke to 3.910 inches is a taller, more robust 1.307 piston compression height. This allows for thicker ringlands and better ring stability.



After the connecting rods were torqued to the crank, Muscle Motors installed the Milodon pickup tube, oil pan, and windage tray. The pan's kicked-out design reduces windage while maximizing ground clearance.

and 4.250-inch bores. That checks in very similar to a 383 big-block. Since no one ever complained that they couldn't get enough cubic inches out of a bigblock Chevy, perhaps the 383 Chrysler's perceived shortcomings are exaggerated. Mike is also quick to point out that 383-based combos offer other architectural advantages. "With all the aftermarket rotating assemblies and cylinder heads that are available these days, making power is the easy part. The factory big-block heads aren't that big, so putting a ton of cubic inches beneath them isn't always the best way to go," he opines. "Boring a 383 block to 4.280 inches and matching it up with a 3.910-inch crank and 6.700-inch rods offers a good

balance of cubic inches [450], rod-tostroke ratio [1.71:1], and piston compression height. This results in a great balance of torque and horsepower output. The 383 block has lots of wall thickness, too."

SHORT-BLOCK DESIGN

With torque and horsepower peaks of 3,900 and 5,200 rpm, the Muscle Motors 450 offers a gut-punching powerband that promises to perform just as well on the street as it does at the strip. Already kicking out an astounding 605 lb-ft at just 3,400 rpm, this is the kind of torque that doesn't just destroy tires, it also allows lugging heavy cars down the road with relatively tall gears, if you so desire.

After procuring a 383 block, it was bored to 4.280 inches, honed, decked, and align-honed. To improve oil flow, Muscle Motors enlarged the oil galley passages to the mains, and radiused the hard 90-degree turn near the oil pump. Next, the block was fitted with an internally balanced Molnar 3.910-inch forged crankshaft, 6.700-inch steel rods, and Ross 10.32:1 forged pistons. In order to achieve a broad yet hassle-free powerband, the 450ci big-block uses a COMP 231/237-at-.050 hydraulic flat-tappet camshaft with .525/.527-inch lift. Although Muscle Motors typically employs a slightly larger 241/246-at-.050 grind, they intentionally kept things on the conservative side. "Since this is a giveaway



Mike Ware of Muscle Motors says the 80 psi of pressure produced by high-volume oil pumps aren't necessary in engines that see less than 6,000 rpm. As such, he opted for a Melling standard-volume unit instead. The 50-60 psi of pressure it generates is plenty for engine combos like the 450, and Mike says the decreased parasitic drag is probably good for a few extra hp, too.



After dropping in new .904-inch COMP Cams lifters, they were bathed in Driven 10W-30 HR synthetic oil to prep them for duty. The Driven formula includes high levels of zinc and phosphorous, making them ideal for flat-tappet engines.



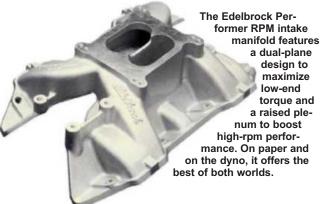
The 440 Source Stealth aluminum cylinder heads come fully assembled with 2.140/1.810-inch stainless steel valves and COMP Cams 1.550-inch beehive valvesprings, retainers, and locks. For the power-adder crowd, the thick 5/8-inch decks can handle plenty of abuse.



After a mild CNC port job, the Muscle Motors crew blended the bowls by hand. The result is 315 cfm of airflow through the intake ports and 233 cfm through the exhaust. That's an increase of 30 to 40 cfm.



Skimming the deck surface of the head netted a final combustion chamber volume of 79 cc. Matched with -9.9cc pistons, the compression ratio checks in at 10.32:1.



engine, we wanted it to produce enough manifold vacuum to run power brakes. The bigger cam that we normally use is good for an extra 20 hp," Ware explains.

AIR SUPPLY

In just a few short years, the bigblock Mopar enthusiast has gone from scrounging for factory 906 and 915 cylinder heads to having multiple aftermarket aluminum castings at his disposal. After analyzing the options, Muscle Motors determined that the popular 440 Source Stealth cylinder heads provided the ideal combination of airflow and port cross-section to help reach its horsepower and torque objectives. The Stealth castings flow 280-290 cfm and feature 212cc intake ports, 80cc combustion chambers, and 2.140/1.810-inch stainless steel valves. After running them through its

CNC program, then hand-finishing them, Muscle Motors improved those figures to 315 cfm on the intake side and 233 cfm on the exhaust side at .600-inch lift. "Any time you increase airflow you make more power," Ware says. "Out of the box, these heads flow similarly to a set of well-ported factory iron castings. The port cross-section we ended up with isn't that much larger, but by opening up the throat and putting a good valve job

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At the intake flange, the intake manifold runners should be the same size as the intake ports, so the runner openings on the Edelbrock manifold were gasket matched, thus maximizing airflow into the cylinder heads.



After bolting the cylinder heads down, Muscle Motors technicians installed the COMP Cams Pro Magnum rocker arms and pushrods. Mike says if you're going to spend a few extra dollars on premium components anywhere on an engine, it should be in the valvetrain.



With the valves set to zero lash and the intake manifold and carb installed, the low-deck 450ci big-block was almost ready to roll. Here, Muscle Motors primes the oil pump before dropping in the MSD billet distributor. Then, it was finally time to hit the dyno cell.



On the pump, the 450 responded best to 16 degrees of ignition advance at idle and 36 degrees of total advance. The numbers were gathered using a set of 2-inch long-tube headers.

on them, we were able to increase airflow quite a bit."

To make sure the rest of the induction package can keep up with the heads, Muscle Motors matched them up with an Edelbrock Performer RPM intake manifold and a Quick Fuel Technology 830cfm Black Diamond series carburetor. COMP Cams Pro Magnum 1.5:1 rocker arms, springs, lifters, and pushrods regulate airflow in and out of the cylinders, while

an MSD billet distributor ignites the air/fuel mixture.

ON THE DYNO

For an engine platform often dismissed for being too small to make real power, Muscle Motors' 383-based combination certainly debunks those misguided myths. On ordinary 93-octane pump gas, the 450ci big-block cranks out 559 hp at 5,200 rpm, and 611 lb-ft of torque at

3,900 rpm—that's well within the realm of a built-up 440. Matching this same engine up with a mild solid flat-tappet cam would easily net well over 600 hp while retaining perfect street manners.

SMALL CUBES, BIG TORQUE

Although people will debate the merits of maximizing rod-to-stroke ratio until the end of time, the 1.71:1 ratio used in the Muscle Motors 450 certainly seems

FAST FACTS 450CI CHRYSLER WEDGE

BORE: 4.280 inches

STROKE: 3.910 inches

DISPLACEMENT: 450 ci

COMPRESSION RATIO: 10.32:1

CAMSHAFT: COMP Cams hydraulic roller

VALVE LIFT: 0.525/0.527 inch

DURATION: 231/237 degrees at 0.050

LOBE SEPARATION ANGLE: 110 degrees

CAM INSTALLED CENTERLINE: 106 degrees

ROCKER AND RATIO: COMP Cams Pro Magnum 1.5:1

LIFTERS: COMP Cams 0.904-inch hydraulic flat-tappet

PUSHRODS: COMP Cams 8.400-inch intake/exhaust

PISTON RINGS: Total Seal 1/16, 1/16, 3/16 inch

PISTON RING GAP: 0.017-inch top, 0.021-inch second

PISTON: Ross forged

BLOCK: OEM Chrysler 383

CRANKSHAFT: Molnar 3.910-inch forged steel

RODS: Molnar 6.700-inch forged steel

MAIN JOURNAL DIAMETER: 2.625 inches

ROD JOURNAL DIAMETER: 2.200 inches

BEARINGS: Clevite H-series

CYLINDER HEAD: CNC-ported 440 Source Stealth aluminum

INTAKE PORT FLOW: 315 cfm at 0.600-inch lift

EXHAUST PORT FLOW: 233 cfm at 0.600-inch lift

CHAMBER VOLUME: 79 cc

INTAKE VALVE DIAMETER: 2.140 inches

EXHAUST VALVE DIAMETER: 1.810 inches

VALVESPRINGS: COMP Cams 1.550 inches

SPRING RETAINERS: PAC titanium

HEAD GASKET: Fel-Pro 0.040 inch

INTAKE MANIFOLD: Edelbrock Performer RPM

CARBURETOR: QFT Black Diamond SS 830cfm

HEADER: custom 2.000-inch long-tube

DISTRIBUTOR: MSD Pro Billet

DAMPER: Powerbond

WATER PUMP: Muscle Motors aluminum

OIL PAN: Milodon

OIL PUMP: Melling standard volume

OIL: Joe Gibbs Driven high-zinc synthetic 10w30

FUEL: 93-octane pump gas

TIMING ADVANCE: 36 degrees

ON THE DYNO 450CI CHRYSLER WEDGE

RPM:	TQ:	HP:
3,200	581	353
3,300	593	372
3,400	605	390
3,500	596	398
3,600	600	411
3,700	605	426
3,800	610	442
3,900	611	454
4,000	608	463
4,100	606	473
4,200	608	486
4,300	611	501
4,400	608	509
4,500	599	513
4,600	594	520
4,700	589	527
4,800	584	533
4,900	580	541
5,000	577	549
5,100	572	556
5,200	564	559
5,300	551	555
5,400	542	557

CYLINDER HEAD FLOW CNC-PORTED STEALTH CASTINGS

VALVE LIFT:	INT. CFM:	EXH. CFM
.100	78.0	70.1
.200	158.3	125.0
.300	220.4	164.4
.400	266.9	200.1
.500	301.2	218.9
.550	308.6	228.0
600	315.1	233.3

to get the job done. At 611 lb-ft, its torque output would be plenty stout for an engine measuring 50 ci larger. (Just in case you were wondering, the torque-per-ci metric works out to an impressive 1.35:1.) Even more impressive is how evenly all that savory torque is distributed throughout the powerband. At just 3,400 rpm, the 450 is already kicking out 605 lb-ft. Likewise, it averages an astounding 600 lb-ft of torque between 3,200 and 4,800 rpm.

Proving that it's not just a torque monster that runs out of steam up top, the Muscle Motors combo also cranks out 559 hp to back up its massive low- and mid-range grunt. The end product is a fun-to-drive,

built-for-the-street 1,000- to 5,500-rpm operating range that will make those "missing" cubic inches a distant memory. Best of all, anyone who builds a similar B-series combo can tell unassuming onlookers that it's just a small, wheezy 383, then surprise the hell out of them at the next stoplight.

Try not to be too jealous! At the 2015 Carlisle Chrysler Nationals, Steven Alexander (Harrisburg, Pennsylvania) won the raffle for our *Mopar Muscle* Muscle Motors 450 big-block. We can't wait to see it in his '74 'Cuda! Inside tip: Next year is the 50th anniversary of the street Hemi—so you get one guess what we'll be giving away next year!

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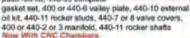
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540" Aluminum Wedge

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big Indy power. Kit includes: assembled heads, valley plate, intake gaskets, push rods and head bolts.

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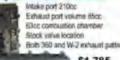
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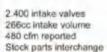




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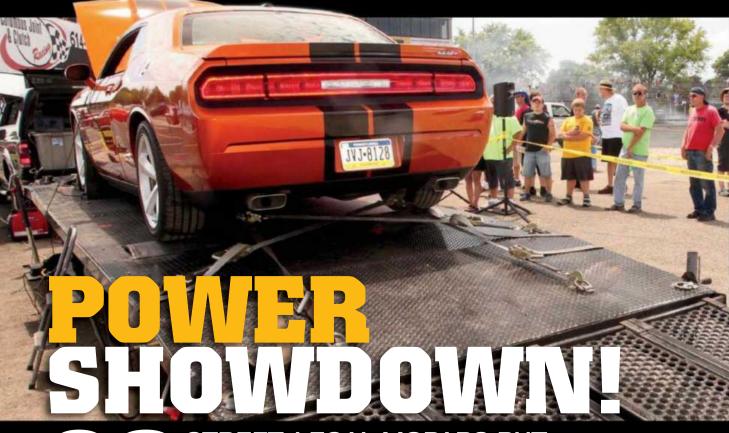
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STREET-LEGAL MOPARS PUT THE POWER TO THE WHEELS AT THE MOPAR MUSCLE DYNO SHOWDOWN POWERED BY WEST BEND DYNO.

BY STEVE DULCICH 🗘 PHOTOGRAPHY JOHN MACHAQUEIRO & JOHNNY HUNKINS

it comes to bragging rights, there are plenty of things that set one Mopar apart from the others. It might be extraordinarily rare, unusually optioned, remarkably well-preserved, or flawlessly restored. While all of these things are worthy of admiration, nothing spells raw Mopar excitement more than the horses found under the hood. From the classic muscle era, to the latest muscle of today, Mopar notoriety has always centered upon horsepower. Of course, a part of the game has always included a bit of embellishment. We've run across plenty of stock 440s with a performance cam and headers that laid claim to 500 hp or more, and mild small-blocks that are makin' at least 400, if not that same magic 500.

The dyno is where the truth is separated from wishful thinking or outright exaggeration. An engine dyno is a useful tool, but when that hot mill is planted in a car, the power at the tire is what counts. Here we have the full load of accessories, drivetrain losses, and details such as the

exhaust system and cooling efficiency all playing a role in how much power your machine actually puts to the ground. Typical ballpark losses from these factors can figure about 25 percent compared to engine dyno numbers for conventional automatic trans-equipped cars. Manual transmission vehicles will deliver better numbers than that, as will the highly efficient modern automatics with lock-up torque converters.

At the 2015 Mopar Nationals we brought the dyno to the Mopar faithful, with the annual *Mopar Muscle* Dyno Showdown sponsored by West Bend Dyno. On offer was free chassis dyno testing within the framework of a friendly



competition in four different classes: A normally aspirated and a power-adder class for vintage muscle, and the same two categories for late-model machines. Pre-registered participants were given priority, but open sign up was available all day allowing enthusiasts to join in on the fun on the spot, on a first-come, first-served basis.

Our goal was to run as many cars as time in our one-day competition would allow. With sponsorship from West Bend Dyno we brought in a portable chassis dyno and planted it directly adjacent to the tower and staging lanes of National Trails Raceway in Hebron, Ohio. The Redline Motorsports dyno crew worked at a frantic pace, as all manner of Mopar metal lined up for a try at the rollers.

As might be expected, vehicles varied from resto-stock to street-freak wild, and power numbers covered an extreme range. Late-model muscle was well represented, most with Gen III Hemi power, including three brandishing the incredible supercharged Hellcat powerplant. When it was all said and done, we had tested 29 cars. Here is how it played out.



VINTAGE NATURALLY ASPIRATED

By far the majority of classic muscle turned the rollers on motor only. With the power potential of your favored Mopar V-8 at the ready, these cars deliver the goods the old-fashioned way without the embellishment of nitrous, superchargers, or turbos. It is plain-old V-8 grunt doing the work and nothing more. At the end of the day, we had 12 cars contending for the prize in Vintage Normally Aspirated. Leading the pack with eight entries, big-block power motorvated the vast majority of the cars. Here, the traditional 440 was the most popular, but the big-inch strokers dominated for power. The traditional Hemi was represented by a single competitor, but being a stock displacement resto-style engine it was no match for the powerful big-block wedge. Small-blocks appeared in the class as well, but all were milder stock-displacement builds and no threat to the leaders. We know Chrysler's small-block can put up serious numbers, but heavy-hitting examples were conspicuously absent. A lone Gen III late-model swap also made the field, however it too was no match for the old big-block.

If there is anything to be taken away from the results here, it is that the Chrysler big-block remains an extremely effective choice for street performance. Basic, rugged, and reliable, the big-block was produced in massive numbers and cores are still plentiful today. Mopar's more exotic engines certainly garnered most of the limelight, but the big working-class wedge still delivers the goods.







<mark>WINNER</mark>-VINTAGE NATURALLY ASPIRATED

1973 DODGE CHALLENGER 435 hd & 414 lb-ft

OWNER: Rick Martinez; Crest Hill, IL ENGINE: 500ci RB Wedge big-block SPECIAL FEATURES: 4.15-inch stroker crank, Edelbrock 6-pack with EFI, Edelbrock heads, Hughes cam and rockers, TTI headers





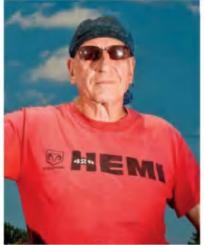


1971 PLYMOUTH 'CUDA 420 hp & 437 lb-ft

OWNER: Kenneth Toler
ENGINE: 512ci RB Wedge big-block
SPECIAL FEATURES: stroked to 512 cubes, 10.5:1
compression, Demon carb, Stealth heads

VINTAGE NATURALLY ASPIRATED CONTINUED...

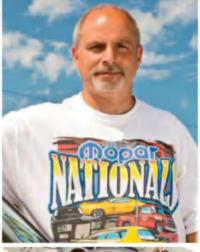






1970 DODGE CHALLENGER
391 hp & 405 lb-ft
OWNER: John Bretz; Erie, PA
ENGINE: 440ci RB Wedge big-block
SPECIAL FEATURES: Edelbrock 6-pack, ported heads,
mostly stock appearing





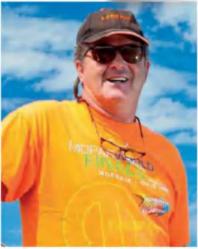


1967 DODGE CORONET 500 385 hp & 391 lb-ft

OWNER: Matt Bonnette; Dearborn Heights, MI ENGINE: 446ci RB Wedge big-block SPECIAL FEATURES: COMP hydraulic roller cam and

SPECIAL FEATURES: COMP hydraulic roller cam and rockers, #915 iron heads, TTI headers, Eagle rods, 10.5:1 compression, Diamond pistons, Mopar M1 intake, 950 Holley carb







1971 DODGE CHALLENGER CONVERTIBLE

337 hp & 319 lb-ft

OWNER: Anthony Rhodes; Charlseston, SC ENGINE: 426 Hemi SPECIAL FEATURES: stock-style resto build



Besides running for the glory of the dyno competition, the dyno showdown provided an opportunity to wring out the engine and evaluate its performance. This '65 Belvedere is a nostalgia racer that fell short on its true potential due to valvetrain instability. We plan to work with the owner with the aim of solving the issue.







1965 PLYMOUTH BELVEDERE

330 hp & 360 lb-ft
OWNER: Donald Gallimore; Akron, OH
ENGINE: 440ci RB Wedge big-block
SPECIAL FEATURES: COMP Cams hydraulic cam, Eagle rods, Doug's headers, 800cfm Edelbrock carb, Edelbrock Torker II intake, 9.5:1 compression



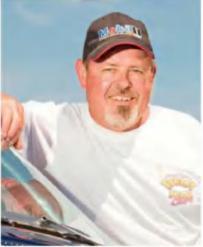




1966 DODGE CORONET 326 hp & 349 lb-ft OWNER: Lynne Marchione; Livonia, MI

ENGINE: 446ci RB Wedge big-block SPECIAL FEATURES: Mopar purple cam, Hedman headers, 850 Holley carb, Mopar M1 intake, 440 Source heads, Sealed Power pistons, 10.5:1 compression







1962 DODGE POLARA 500

332 hp & 349 lb-ft
OWNER: J.R. Hary; Princeton, IN
ENGINE: 446ci RB Wedge big-block
SPECIAL FEATURES: COMP Cams hydraulic roller cam, CAT rods, Hedman headers, Edelbrock Torker intake, 870cfm Holley carb, 440 Source heads, 10:1 compression



Ace announcer Brian Lohnes (right) kept the fans informed with his commentary and extraordinary knowledge of racing history, while the author (*left*) added analysis of the vehicle's performance and specifications.

VINTAGE NATURALLY ASPIRATED CONTINUED...







1970 DODGE DART SWINGER

284 hp & 321 lb-ft
OWNER: Mark Gerko; Byesville, OH
ENGINE: 324ci LA-Series small-block
SPECIAL FEATURES: Built on a 318 block using
360 heads, COMP Cams XE268 hydraulic
cam, KB pistons, Edelbrock Air-Gap intake,
600cfm Edelbrock carb, Doug's headers, 10.5:1
compression compression







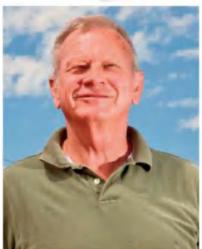


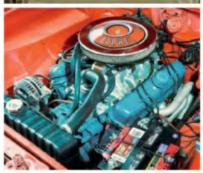
1965 DODGE POLARA 239 hp & 271 lb-ft OWNER: Jeremy Mason

ENGINE: 446ci RB Wedge big-block SPECIAL FEATURES: 750cfm Holley carb, Edelbrock Performer intake, headers









1972 PLYMOUTH DUSTER

223 hp & 260 lb-ft OWNER: Tony Gustin; Henryetta, OK ENGINE: 340ci LA-Series small-block **SPECIAL FEATURES:** Hooker headers, Weiand intake, 750cfm Summit carb





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-Mopar Muscle "Furious Firepower!" pg. 22, Nov. '15



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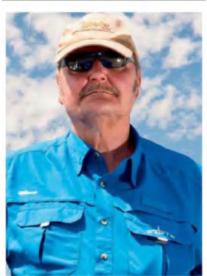
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POWER SHOWDOWN!

VINTAGE NATURALLY ASPIRATED CONTINUED...



At the 2015 Mopar Nationals we brought the dyno to the Mopar faithful, with the annual Mopar Muscle Dyno Showdown sponsored by West Bend Dyno.





1967 PLYMOUTH BARRACUDA

211 hp & 245 lb-ft OWNER: Raymond Sayder; Berlin Center, OH

ENGINE: 340 LA-Series small-block SPECIAL FEATURES: stock-appearing resto-style engine, factory exhaust manifolds



VINTAGE POWER ADDER

They say it is lonely at the top, and at the 2015 Dyno Showdown, Rick Trunkett got a chance to enjoy that feeling. Trunkett came to the Vintage Power Adder class with a '72 Duster that was in a class of its own—literally. He was the only taker in this class, but after his performance we had to wonder if other potential competitors were just plain scared off. Of course being the only competitor, the single-turbo small-block Duster won its class. In fact, the Duster outpowered every other car we tested in every class of competition, by a huge margin, including the late-model Hellcats.

A crowd gathered for the spectacle as the Duster took the stage, and it proved to be a staggering display of force. The big 98mm single turbo began to spool, and in unison the crowd stepped back from the dyno as the noise and fury began to build. The small-block threw down 1,079 hp on that first dyno pull. Remember, that is power at the rear wheels! For an encore performance. Trunkett upped the ante with a second pull recording 1,101 rear wheel horsepower. Needless to say, this is no ordinary turbo small-block. The little Mopar actually measures big-block size at 440 ci, and packs the parts that it takes to make this kind of power and live. Later that weekend, we saw Trunkett back up these numbers with e.t.'s in the mid 8s down the National Trails quarter-mile.

Of course being the only competitor, the single-turbo small-block Duster won its class. In fact, the Duster outpowered every other car we tested in every class of competition, by a huge margin, including the late-model Hellcats.







WINNER-VINTAGE POWER ADDER

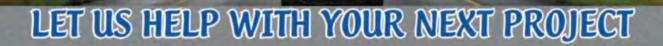
1972 PLYMOUTH DUSTER 1.101 hd

OWNER: Rick Trunkett; Hinkley, OH ENGINE: 440ci LA-Series small-block SPECIAL FEATURES: Mopar R3 block, Eagle 4.0inch crank, Eagle rods, JE pistons, Indy 360-1 heads, Indy intake, Holley EFI, Bullet cam, 98mm single turbo, 9.0:1 compression









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LATE-MODEL NORMALLY ASPIRATED

As you might suspect, here was a class dominated by the late LX platform cars and the Gen III Hemi powerplantthough a pair of LA small-block trucks and a Viper kept it interesting. There is no doubt that performance has experienced a renaissance in the Mopar uni-

verse with these late-model machines. The outstanding power output shown by these Gen III engines, many with minimal mods, makes the performance palpable. Wrapped in the attractive contemporary coupe and sedan bodies, that Hemi power is the basis for the modern incarnation of the muscle car.

The Gen III powered its way to the winner's circle, even beating out the mighty Viper V-10. For a little perspective, the Viper, a 2001 model, was considered an exotic, all-out supercar when it made its debut, while these late Hemi machines



fly off the lot as normal dealer inventory. Our late-model Hemi participants brought powerplants that were mostly stock or mildly modified, yet the power compared favorably to modified traditional muscle.

Another interesting aspect of this class related to Mopar's small-block. While we saw a modest number of small-blocks in the Vintage class, all were small displacement, stock-stroke engines. The late-model trucks in this class included a 408 stroker Magnum combination that produced solid results.



<mark>WINNER</mark>-LATE-MODEL NORMALLY ASPIRAT<u>ED</u>











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LATE-MODEL NORMALLY ASPIRATED CONTINUED...











2001 DODGE VIPER 421 hp & 456 lb-ft OWNER: Chris Conrad; Tallmadge, OH **ENGINE:** 488ci Viper V-10 SPECIAL FEATURES: factory stock





2006 DODGE MAGNUM R/T 349 hp & 369 lb-ft

OWNER: Jeff Randall; Clinton, MI ENGINE: 345ci Gen III Hemi

SPECIAL FEATURES: COMP hydraulic roller cam, SRT headers, ported 5.7L heads, cold-air intake



2009 CHALLENGER SRT8

379 hp & 370 lb-ft

OWNER: Russell Keener; Grafton, WV ENGINE: 370ci Gen III Hemi **SPECIAL FEATURES:** factory stock







LATE-MODEL NORMALLY ASPIRATED CONTINUED...







1997 DODGE DAKOTA SPORT 348 hp & 342 lb-ft

OWNER: Mike Kollatz; Albany, WI ENGINE: 408ci Magnum small-block SPECIAL FEATURES: Scat 4.0-inch stroke crank, Magnum R/T heads, M1 intake, Fast Man throttle body







2007 DODGE CHARGER R/T 297 hp & 323 lb-ft

OWNER: Aaron Nolan; Macomb, MI ENGINE: 345ci Gen III Hemi SPECIAL FEATURES: cold air intake, cat-back exhaust, programmer, Flowmaster mufflers







1996 DODGE DAKOTA 292 hp & 331 lb-ft

OWNER: William Jackson; Chesterfield Twp., MI ENGINE: 360ci Magnum small-block SPECIAL FEATURES: Mopar M1 intake, Mopar cam, Mopar ECU, Edelbrock headers, 10:1 compression



Modern muscle was well represented by the popular LX platform cars, but this '01 Viper belonging to Chris Conrad was a crowd pleaser. The 488 V-10 was all stock, and fared well against the modified Gen III Hemis. In torque, it was the highest normally aspirated machine tested.



LATE-MODEL POWER ADDER

Take the already mighty Gen III Hemi and add boost, and you are ready for some serious output. This class allowed superchargers, turbos, and nitrous, and all but one of our Gen III Hemi entries were using a supercharger. In fact, three of the seven competitors in this class were fielding Chrysler's fierce Hellcat-supercharged Hemi. The odd man out here was a Turbodiesel Dodge Ram truck, an unusual part of the mix, but technically a late-model machine with a power adder.

Interest was high, particularly as the Hellcats met the rollers, with the crowd consistently swelling to see if these machines would live up to the hype and door-blower reputation. That they do, with the Hellcats taking the top three positions in class by a substantial margin. Chrysler definitely did their homework on putting these machines together—the most powerful production cars ever produced by the company.

The balance of the field was made up of modified late-models, with a variety of positive-displacement blowers installed, and a single nitrous-boosted entry. The numbers posted were strong, but not in the same league as the brutal Hellcat. Can the Hellcat be topped by a serious aftermarket effort? We think so, but it will take stepping up to the rollers and proving it at next year's *Mopar Muscle* Dyno Showdown.

Interest was high, particularly as the Hellcats met the rollers, with the crowd consistently swelling to see if these machines would live up to the hype and door-blower reputation.







WINNER-LATE-MODEL POWER ADDER

2015 DODGE CHALLENGER SRT HELLCAT

660 hp & 615 lb-ft

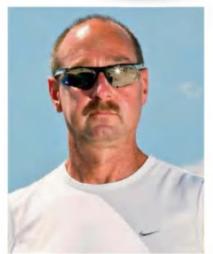
OWNER: Anthony Fenice; Grove City, OH ENGINE: 6.2L (370ci) supercharged Gen III Hellcat

SPECIAL FEATURES: factory stock



LATE-MODEL POWER ADDER CONTINUED...





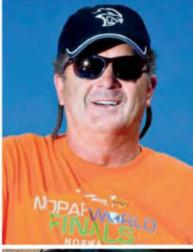


2015 DODGE CHALLENGER SRT HELLCAT 602 hp & 542 lb-ft

OWNER: Donald Gaskins; Cambridge, OH ENGINE: 6.2L supercharged Gen III Hellcat Hemi SPECIAL FEATURES: factory stock, super-duper wheels









2015 DODGE CHALLENGER SRT HELLCAT

601 hp & 548 lb-ft

OWNER: Anthony Rhodes; Charleston, SC ENGINE: 6.2L supercharged Gen III Hellcat Hemi SPECIAL FEATURES: factory stock









2010 DODGE CHALLENGER R/T 579 hp & 587 lb-ft

OWNERS: George Gawadzyn; Amherstburg, ONT ENGINE: supercharged 392ci Gen III Herni SPECIAL FEATURES: Arrington Performance-built 392, Magnuson supercharger at 12psi









2014 DODGE CHALLENGER R/T 450 hp & 509 lb-ft

intake

OWNER: Jake Bresinski; China Twp., MI ENGINE: 345ci Gen III Hemi SPECIAL FEATURES: Arrington 90mm throttle body, Nitrous Outlet 100hp shot, Kooks headers, 6.1L





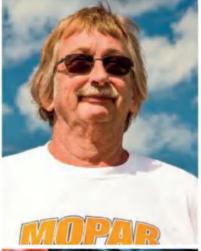




2009 RAM 2500
391 hp & 405 lb-ft
OWNER: Isaal Busby; Shelburn, IN
ENGINE: 6.7L Cummins Turbo Diesel
SPECIAL FEATURES: no modifications detailed







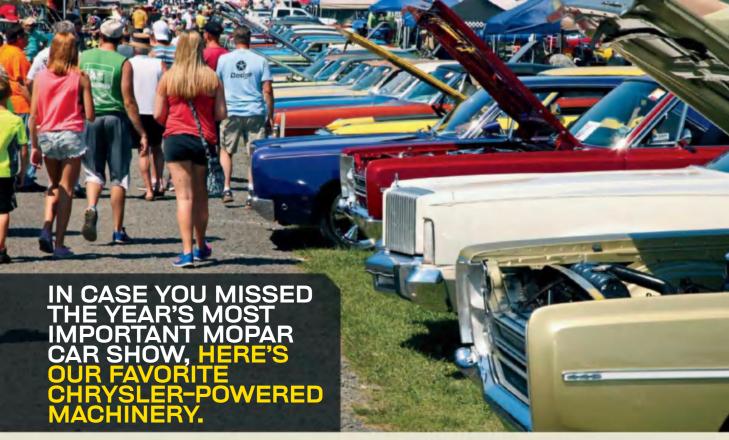


2008 DODGE CHALLENGER SRT8 365 hn & 324 lh-ft

365 hp & 324 lb-ft
OWNER: Jr. Wuebbenhorst; Wapahoneta, OH
ENGINE: 370ci (6.1L) Gen III Hemi
SPECIAL FEATURES: Kenne Bell supercharger, TTI
3-inch exhaust



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CARLISLE TOP 20!

BY JOHNNY HUNKINS 🗘 PHOTOGRAPHY BY THE AUTHOR

or the Chrysler fan, there's nothing quite like the summertime homecoming called the Chrysler Nationals. Just a stone's throw from Harrisburg, Pennsylvania—the state's capital—Carlisle Events hosts the all-Chrysler gathering on the sprawling Carlisle fairgrounds, swelling the small town's normal population of

just under 19,000 to three times its normal size. Nobody seems to mind the grid-lock though; it's wall-to-wall Dodges, Plymouths, DeSotos, AMCs, and Chryslers as far as the eye can see. Locals have resigned themselves to the mayhem, and even gladly participate, many of them lending their driveways to parking, and their yards to displaying various Chrysler machines for sale.

No doubt about it, this is a town that loves its classic cars. Hotel and restaurant parking lots burst at the seams with Mopars, and everybody revels in the proud living history of Pentastar power.

Like everybody else, we tried our best to soak the spectacle in, from swap meet, to main stage, to acres of car show. Kids in a toy store know the feeling; you want to touch everything and find all the cool stuff, but you fail wonderfully. Finally, at the end of three sensory-overloaded days, you pour yourself into bed, and listen to the cacophonic buzz between your ears. As you float off to sleep, you replay scenes of meeting great new people, seeing historic machinery, and spending time with old friends and family. Shortly, it will be back to the old bump and grind. But there's always next year! And it's not too early to mark your calendar; the 2016 Chrysler Nationals in Carlisle, Pennsylvania, is scheduled for July 15-17. Now let's take a look at 20 memorable machines from the summer of 2015!

Those of us old enough to remember know that the '67 Dodge Coronet 440 wagon was ubiquitous, disposable family transportation. With so few of them remaining, they're as rare as street Hemis, giving them a cool cult status. This time machine belongs to Jackson Boyd and packs a 383 4-bbl.





The Chrysler Nationals separates cars by chassis and model, with the better part of an entire row dedicated to fullsized C-Bodies. This 440-powered '69 Chrysler Newport Custom in Platinum Iridescent had us drooling.



Richard Firestone brought his 1968
Dodge Monaco 500 all the way from
Cartersville, Georgia. With a built 493ci
440, it pretty well rules the freeway.
The Monaco 500 was the premium fullsized model in the Dodge lineup for
1968 and was only available as a twodoor hardtop or convertible.



This year was the 50th anniversary of the '65 models, so Lorne Maul's bright white '65 Plymouth Satellite was on our radar screen. Its original Poly 318 A-engine is long gone; in its place resides a 300hp 5.9L Magnum crate engine. The Rallye wheels are a tad out of place on a '65, but this car sells it.



Likewise, Don Heare's '65 Plymouth Belvedere II was looking sweet with its Ruby Mist paint and Hurst-look ARE wheels. A 472ci Hemi crate motor, four-speed A833 rock box, 8.75-inch rear, 3.73 gears, and Super Stock leaf springs make it the perfect weekend quarter-mile machine.

Like everybody else, we tried our best to soak the spectacle in, from swap meet, to main stage, to acres of car show.

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EVENT | CARLISLE TOP 20!



A mild 525hp Ray Barton Hemi can be found beneath the hood of Kevin Leap's '67 Plymouth Belvedere II. A 727 auto with 4:10-geared Dana 60 have conspired to produce eighthmile timeslips in the 7.40 range—a major accomplishment considering it came at South Mountain Raceway, arguably the worst drag strip still operating in North America.



A peculiar trend unique to the Mopar world is one where enthusiasts build track-prepped quarter-mile cars with slicks and other traction aids unique to drag racing, but do not actually race them once they're finished. Jim Macione's '64 Plymouth Savoy with a 500ci Max Wedge is such a car. We love it, and gladly volunteer to drag test it for him!



Call it a personality defect, but we dig the unloved '75 Plymouth Road Runner. The one-year-only Fury-based B-Body featured unique styling (including a "Star Wars" Road Runner graphic on the rear deck) and buyers could even opt for a 235hp 400ci 4-bbl Wedge. Only 7,183 were built, most with the 145hp 318 small-block. Note this car's odd '68-model marker lights.









Also in the "unloved" category is Kyle Karp's '79 Chrysler Cordoba, which we naturally fell in love with. In their day, they competed in the hot luxury coupe segment, which featured Monte Carlo, Thunderbird, Grand Prix, Olds Cutlass, and Buick Regal. Karp's car ingeniously incorporates '86 Chrysler Conquest "TSi Chiller" wheels to great effect.



When you think of a '80 Dodge Diplomat, the first thing that comes to mind are police cars and family sedans, yet Dodge did make some of them in a far more attractive two-door coupe style, of which Chad Zigler's is a very well preserved specimen. This one has a later Magnum 360 mill, 904 TorqueFlite auto, 3.91-geared 8.75-inch rear, and runs 13,40s.



Arguably one of the most attractive luxury cars to wear the Chrysler name, the '81 Imperial was Lacocca's bid to relaunch the brand in the face of bankruptcy. In profile, the '81-'83 Imperial is stunning, but performance from its ornery lean-burn 318 wasn't. Cool fact: The '81-83 Imperial used handcrafted Cartier lead crystal for its Pentastar hood ornament and B-pillar badging. This one is owned by Stanley Davis of Clinton, Maryland.



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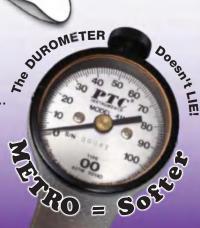


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EVENT | CARLISLE TOP 20!



These days, the Roadkill General Mayhem is the '68 Dodge Charger at the top of everybody's mind, but a lot of Mopar guys would sooner have Todd Provencher's gem example. The Medium Green four-speed R/T is home to a 383 Wedge.



Jim Moore isn't afraid to pound his Plum Crazy '70 Super Bee down the quarter mile; the 906-headed, 10.5:1, six-pack inducted 440 gets the job done to the tune of 12.80s at 105 mph. Jim says he built it himself and has owned if for 25 years.



We enjoyed talking with Steve and Elizabeth Mader, who brought this sweet '71 Plymouth Duster from Shenandoah Junction, West Virginia. No dyno numbers on it, but the 408ci small-block features Stage 2 ported Eddy heads, an XL295 COMP cam, QFT 950cfm fuel mixer, and can really lay rubber!



What else are you going to drive if you're a member of the Long Island Mopar club? Bright, loud, and obnoxious, Tom Derych's 8-71-blown 472ci Hemi is perfectly at home nestled between the fenders of the Sublime green '70 Dodge Charger, which Tom has owned for 25 years and built himself.



Awesome A-Bodles were not in short supply at Carlisle, but Jesse Furr's homebuilt '72 Duster stood out for its brash 505 cubes of Indy-headed big-block fury! That power flows through a built 727 automatic with a Gear Vendors overdrive and a 3.55-geared 8.75-inch rear.



The year 1974 was the end of the 'Cuda line, so Bryon Webber thought he'd make the most of his with a 512-inch 440 and a 200-shot of nitrous. Webber admits to 626 hp and e.t.s in the 11.20/124 range, all rowed through a five-speed TKO 600.

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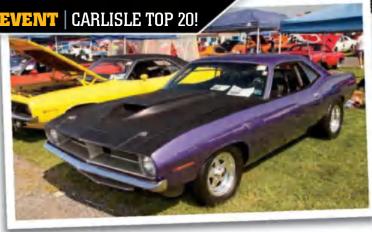
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How can you not love Peter Romano's street-driven '70 'Cuda? Even before the Procharger was added, it ran deep into the 9s. The combo: a 340-based 434ci small-block-sporting Indy 360-2 heads, COMP solid-roller cam, CSU blow-through carb, water/meth injection, and aforementioned F1R Procharger. We are on it for a feature!



And then we ran into Ted Spehar, the man responsible for so many brilliant tuning jobs that put Chrysler in the media spotlight over the years. We caught the "Mad Scientist" relaxing with his cronies, enjoying a cold beverage, and eager to show us his '64 Dodge 440, which was appropriately endowed with a 426 Hemi.



Whenever you find Ted Spehar, you know Greg Charney—Super Stock class winner at the 1971 U.S. Nationals—can't be too far away. Charney brought out something unexpected: his mint '65 Plymouth Belvedere II wagon. We were pleasantly surprised to find it still has its original 318 poly V-8.

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KINGOFT

IS RICK TRUNKETT'S FULLY FUNCTIONAL, ACTUALLY DRIVEN '72 DUSTER THE QUICKEST STREET-LEGAL MOPAR IN THE LANDP HE CERTAINLY HAS THE TROPHY TO PROVE IT.



BY BRIAN LOHNES 🗘 PHOTOGRAPHY BY JOHN MACHAQUIERO

hings were clipping along nicely during the 2015 Mopar Muscle Dyno Showdown when Rick Trunkett walked up and asked if we had space to accommodate his car. We surely did, and when we asked how much power it would make, he mentioned something around 1,100. We all smiled and thought, "OK, sure pal."

Can you blame us? The number of people who actually own cars that make four-digit power to the wheels is small, and among those, fewer still would actually put their stuff to the test on the rollers in front of a huge crowd. Rick Trunkett was not pulling our collective chain though. We strapped his '72 Duster to the rollers, and he let it fly. When the dust settled, Rick was right on. The car made 1,100.59 hp, and the crowd went wild.

Rick's car is not just some dyno queen that he wrote a bunch of checks so that he could brag to his pals. This car is the accumulation of a life in hot rodding and building horsepower. When Rick threw down \$1,450 for the Duster at the age of 15, there is no way he could have known that the car would eventually evolve into an 8-second 150-mph quarter-mile killer that also gets driven on the street—and if duty calls, can mop up there as well. "This is the first car I ever owned and over the years it has had something like 10 different engines in it and 20 transmissions," Rick said. "I have pretty much blown up everything possible, but the factory lower control arms, K-member, and torsion bars have never been out of the car."

Originally a 198ci three-on-the-tree "old lady special" with radio delete and rubber floor mats, the Duster provided the perfect blank hot rodding slate for a guy who fell in love with Chrysler products when an uncle in a Coronet waxed another uncle in a GTO on the way to a car show. As all of our stories do, Rick's hot rodding life began humbly. In high school a 318 two-barrel engine initially powered the car. What followed were boltons, nitrous, and small-blocks of ever increasing ferocity until today. "When I was a kid this car was actually impounded by the local police," Rick said with a laugh. "I used to do one-wheel burnouts up and down my street with it and one day I got pulled over. The policeman wrote the car up for missing all kinds of safety items and having an exhaust system that was not up to legal standard, so they took the car and I had to walk home." Things have changed a lot since then. While we would love to give you a rundown on every engine that has ever powered this monster, we're not going to. Instead we are going to look at the here and now because this is a car that demands your attention.

Rick's machine is part of the modern ilk of street-legal cars that are capable of outperforming full-on race cars from the not too distant past and they are able to do it while maintaining a level of street manners that our hot rodding forefathers would be truly jealous of. In the case of this Duster it is almost the tale of two cars. There's the modern fuel-injected engine that swallows copious amounts of boost from the turbocharger but underpinning the whole works is the same basic style of suspension that Plymouth sent this car out the door with in 1972 including some of the original parts! How does it all work? Let's start with the powerplant.

The block is a Dodge R3 block that was used as the company's foundation for NASCAR engines and for a very short time they were actually available for order through the dealer network. It was the Internet that tipped Rick off to the existence of the block that currently resides between the fenders of his car. "Someone on a Mopar forum posted that there

HE STREET



were three R3 blocks left in the corner of a warehouse somewhere and that they were available to be bought," Rick said. "I was leaving my job at the time to start my business and actually cashed out my 401(k) to buy the block."

After making as much power as he could with the traditional string of factory small-blocks, this seemed like a necessary and logical evolution for the car. The R3 is based off of the dimensions of the LA family of small-block engines—they share the same bore









The inside is a mix between hard-core race stuff, elements of the stock Duster, and modern comfort. The stock door panels are cool, the integration of the digital dash into the stock location of the factory gauges is awesome, the tightness of the rollcage to everything speaks to a skilled craftsman, and those seats look mighty comfy to relax in.





This is a details business, right?
The inclusion of the dinky factory exhaust pipe had us cracking up especially set against the sight of the parachute, which helps to haul the car down from 160 mph.





spacing—so while it is a little on the exotic side, there are definite family connections to the production small-blocks we all know and love.

This engine—in a couple of forms—has resided in the car for nearly 10 years and because of that it has been a valuable testbed for Rick and his business, Big 3 Racing. "We won the *Mopar Muscle* Dyno Showdown back in 2012," Rick said. "At the time the engine had a blow-through carburetor and a smaller turbo so it made 781 hp on the dyno that weekend. We have had some great sponsors come on since then like Holley, Turbosmart, FTI, and Precision to allow this car to be where it is today."

Where it is today is a place that few other street-driven small-block cars get. At the flywheel this engine is likely making 1,500 - 1,600 hp because it is putting down 1,100 on the dyno rollers. The massive 98mm Precision turbo is barely breaking a sweat putting 19 psi of boost through the engine and while we did not explicitly ask how much more it could take, we're going to guess that there's plenty of room left for more boost, and when that happens the horsepower spirals out of control quickly.

With a rotating assembly consisting of an Eagle 4340 crank, Eagle rods, and JE Pistons, the quality of the components being knocked around by all that



Here's the plant that makes all this fun possible. Measuring out at 440 ci, it is based off a NASCAR R3 block. Indy 360-1 heads and an Indy intake top the engine, a Bullet cam works the valves, a Precision Turbo 98mm unit force feeds the mill, Holley fuel pump, and a Holley Dominator EFI feed it the juice.

boost-enhanced horsepower is known to be solid. Because getting air in and out of the engine are essential, especially when trying to make the most out of forced induction, the cylinder heads, intake manifold, and header design are critical to the success of an engine. Rick chose Indy's 360-1 heads, and they have been extensively ported and polished by Big 3 Racing. He topped those heads with an Indy intake manifold, and the headers expelling the gases and spinning the turbo were also products of Big 3 Racing's in-house fabrication department. The camshaft was made by Bullet and Rick tells us that the lift number is .650 and the duration at .050 is 248 degrees.

Without a healthy supply of fuel all of those awesome components in the engine are just nicely shaped metal and nothing more. So to deliver and manage the fuel situation Rick chose the Holley Dominator EFI system. He has been very happy with

the Dominator and its tuning software. He also went with a Holley fuel pump to move that precious liquid from the rear of the car to the front and to feed those injectors, of which he has two per port.

EFI is one of the main reasons a car like Rick's can lead the life that it does. Blowthrough carbs are awesome, and while they do lots of stuff well they will never be as good, as tunable, and as adaptable as modern port fuel injection. Because of that ability to dial in things like part throttle cruising, the EFI makes this car way more streetable and Rick does spend time on the street with it. "Last year I put 2,500 miles on the car, and it was actually my daily driver for a time when another car I normally drive sucked a bunch of water after a huge rainstorm." How about a daily driver that has gone 8.49/166 mph on its best pass?

After chewing up nearly two-dozen transmissions over the years, Rick has





finally settled on a unit that he likes in the form of an FTI-built Powerglide. His transmission tribulations over the years are the stuff of legend. "I blew up a 727 one time as an 18-year-old kid, and it sent parts into the car and everything." Rick said. "My buddy got hit in the mouth and had to go to the hospital. It was bad. I started using 904s after going through many of them, and talking to the guys at FTI, this 'Glide was the way to go. It has been really good." Rear axles have also met their maker at the hands of Rick as well. Up until last year there was an 8.75-inch Chrysler unit in the back but after mangling that he went with a Moser Fab 9 piece and hasn't looked back since.

The duality of the car really shows with the suspension. Up front, a pair of stock six-cylinder springs and 90/10 drag shocks handle the duty along with stock lower control arms and stock torsion bars. We mean *literally* stock, like installed in 1972. In the back things keep the same form as stock with leaf springs, but with a twist. Calvert Racing monoleaf springs hold up the rear of the car and those also use CalTracs bars to aid in traction. Rick runs a radial tire on this car so stuffing that baby into the track and using the rear end to really force the tires into the surface are things that the Calvert Racing

components are designed to do. Much different than the ideal suspension you would use for a slick-equipped car, this stuff is all scienced-out. Perhaps most impressively the car is not tubbed and all of the suspension components are working from their factory locations. No relocated springs or anything, just Rancho adjustable shocks. How cool is that?!

Young guys like Rick are the ones who continue to drive this hobby forward by going places that older generations may not want to go. Turbocharging, EFI, and all of the things that are advancing at a rapid rate in today's world of hot rodding are the things he has embraced, and when you wrap all of that in a package that started life as a no-performance, no-frills, church cruiser, it gets even cooler.

He's not forgotten where he came from either. On the day that Rick won the *Mopar Muscle* Dyno Showdown, his mentor Nick Wilson died. Rick worked at Wilson's Compu-flow machine shop for years and credits Wilson for teaching him all he knows about engine building and operating his business. Wilson was 55 and passed suddenly. Wilson's legacy will live on in very capable hands as this booster rocket of a '72 Duster shows us clearly.



FAST FACT

1972 PLYMOUTH DUSTER
CAR OWNER: Rick Trunkett • Hinckley, Ohio

ENGINE

TYPE: 440ci LA-style small-block

BORE X STROKE: 4.180 (bore) x 4.00 (stroke)

BLOCK: R3 Mopar racing block

ROTATING ASSEMBLY: Eagle 4340 crank, Eagle H-beam connecting rods, JE 9.2:1 pistons

CYLINDER HEADS: Indy 360-1 fully ported and polished by Big-3 Performance

CAMSHAFT: Bullet cam with .650 lift, duration of 248 at .050

VALVETRAIN: 2.05-/1.65-inch valves, PAC valvesprings, Harland Sharp rocker arms, Trend Pushrods, JP Billet timing set

INDUCTION: Indy intake manifold machined to accept fuel injectors, Precision Turbo 98mm turbocharger producing 19 psi boost

FUEL SYSTEM: Holley Dominator EFI system, Holley fuel pump

EXHAUST: custom-built turbo headers built by Big 3 Racing

IGNITION: MSD crank trigger and MSD 6 box

COOLING: Griffin Radiator and Ford Taurus fan

FUEL: gasoline

OUTPUT: 1,019 lb-ft at 6,400 rpm, 1,140 hp at 7,200 rpm

ENGINE BUILT BY: Rick Trunkett/Big 3 Performance

DRIVETRAIN

TRANSMISSION: FTI Powerglide with 1.8 First gear

DRIVESHAFT: 3-inch aluminum

REAREND: Moser Fab 9-inch rearend, stock width, spool with 3.25 gears, stock suspension pickup points on axle

CHASSIS

FRONT SUSPENSION: virtually stock with Lakewood 90/10 drag shocks, roller bushings, six-cylinder springs, six-cylinder torsion bars

REAR SUSPENSION: CalTracs monoleaf spring, Rancho adjustable shocks

STEERING: factory power-assisted steering, 100 percent stock

BRAKES: SSBC four-piston calipers in the front; Wilwood disc brakes, rear

CHASSIS: custom rollcage, subframe connectors, and motor plate by Daren Kravec of Ohio

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WHEELS: 15x6 and 15x8 Centerline

TIRES: Michelin tires, front; 175-60 Mickey Thompson Pros, rear

You don't need to have spaceship technology to go fast, as proven by Rick Trunkett's car. See the Calvert Racing monoleaf springs and Ranco adjustable shocks? Those are mounted in stock locations and provide the basis for making those Mickey Thompson 275 radials hook.

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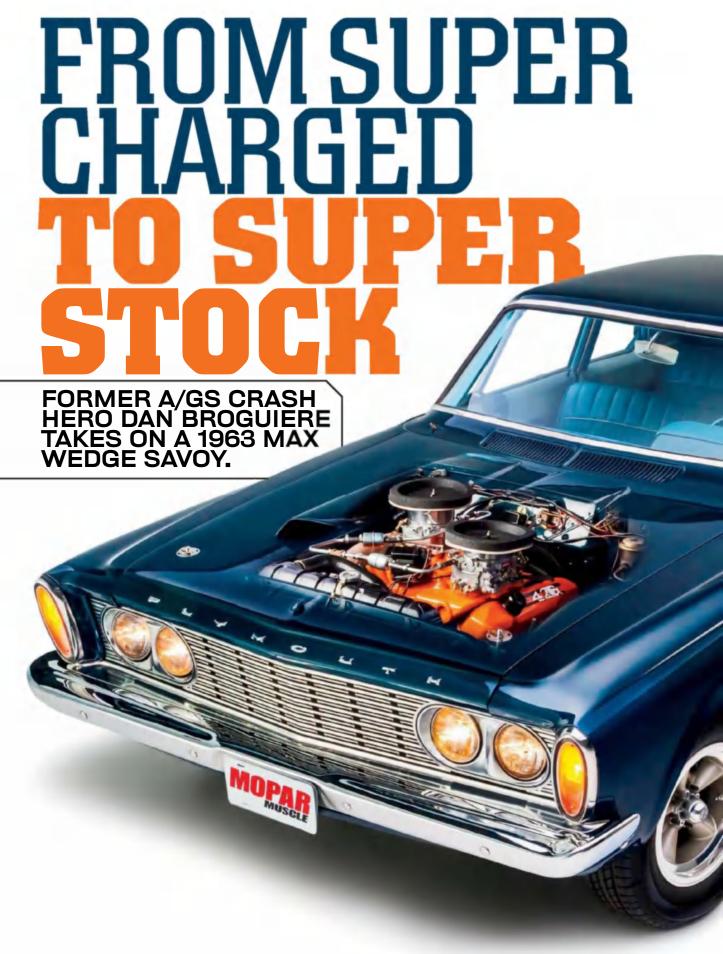












BY STEVE MAGNANTE PHOTOGRAPHY BY JORGE NUNEZ

an Broguiere's name may not be as recognizable as those of Ohio George Montgomery, Big John Mazmanian, K.S. Pittman, or Jack Merkel, but a quick check of the NHRA's record of A/Gas supercharged competition drivers will identify the native Californian as a member of that elite group of hot shoes.

With insanely short wheelbases (less than 100 inches wasn't uncommon), GMC-huffed Hemis, rats, mice, and cammers belting out 800-plus horsepower, and cardboard-thin fiberglass body shells draped over rudimentary ladder frames, these guys flirted with disaster every time they strapped in.

OK, you might be wondering what this little A/GS history lesson has to do with the sanitary '63 Max Wedge Savoy feature car, so we won't delay the punch line any longer. It happens to be owned by the



Pomona melee, the Max Wedge Savoy Dan would come to own four





decades later was in the hands of its first owner. Though his name is presently unknown, careful preservation went hand in hand with performance modifications intended to improve quarter-mile capability. "It's been a race car its entire life but most changes were of a bolt-on nature, only the welded subframe connectors are permanent."

With the Max Wedge's opening act completed by the end of 1962, Chrysler made a series of subtle changes to the engine and vehicle package for 1963. The block's 4.187-inch bore grew to 4.250 inches, boosting displacement from 413 to 426—one cube shy of the 7.0L limit imposed by NASCAR for competition eligibility. A hotter camshaft with 0.509-inch lift replaced the 1962 model's 0.495-inch lift bumpstick and claimed output nudged closer to the truth at 415 hp (11:1 compression model, the 13.5:1 unit claimed 425).

Holding firm were the Max Wedge's dual-point distributor, cast-aluminum cross-ram intake manifold, dual 525-cfm Carter model 3447SA carburetors with manual chokes, non-silenced air cleaners, streamlined cast-iron exhaust manifolds with muffler bypass caps, and that outrageous orange paintjob slathered over everything from the valve covers to the oil pan drain plug.

The vessel in which the Max Wedge sailed was also renewed for 1963. Unlike the engine, the changes were far more substantial. Though the 116-inch wheelbase remained unaltered, Plymouth stylists used every trick in the book to eradicate all traces of the "plucked chicken" body styling that plagued the '62 Plymouth intermediates.

Let's remember that the '62 Plymouth Savoy, Belvedere, and Fury models (and their Dodge Dart and Polara cousins) were the first intermediate-sized Chrysler products to use the all-new B-Body platform, variations of which would later support the GTX and Road Runner. Previous '61 Plymouths and Dodges were either compact A-Bodies (Valiant and Lancer) or fullsized C-Bodies (Plymouth Savoy, Belvedere, Fury,

FROM SUPER CHARGED TO SUPER STOCK

and Suburban wagon), there was no middle ground.

The man in charge of styling the new Plymouth midsize models was none other than Virgil Exner. Though "Ex" had worked a miracle in the '50s with his Forward Look design language of sharp angles, low roof lines, and flat hood surfaces, a last-minute crisis sabotaged his efforts to make the 1962 models appealing.

Initially working under the assumption the new 1962s would continue to ride on the big C-Body and its 122-inch wheelbase, Exner came up with a sleek body shape that was very similar to what materialized on the '62 B-Bodies—but some 20 percent larger. When "shrunken" to suit the smaller 116-inch B-Body wheelbase, the forms lost their grace and, well, heads rolled.

When Plymouth and Dodge dealers were shown the forthcoming 1962 models at exclusive long-lead, invitation-only corporate events, their panic was palpable. Sure enough, by the end of 1962, the damage was done. Plymouth sales fell by 21 percent versus 1961. Luckily the compact A-Body Valiant saved the year from being a total disaster, attracting 157,294 buyers and masking the downward market slide to only 3.08 percent versus 1961.

And so, after 1962, Chrysler management replaced Exner with a much more conservative stylist by the name of Elwood Engel. A refugee from Ford, his previous efforts included the slabsided '61 Lincoln Continental and bullet-themed '62 Thunderbird. At Chrysler, Engel sought to start over, and the totally re-skinned 1963 B-Bodies and A-Bodies were proof.

Which brings us back to the feature car. When compared to a 1962 Savoy, body length of the 1963 grew three full inches while height grew from 53.7 to 54.1 inches. Engel's surface development eschewed Exner's numerous bladelike appendages in favor of smooth flanks and crisp, full-length creases and bulges. The public liked what it saw and Plymouth B-Body sales (all models combined) swelled from 182,220 in 1962 to 263,282 in 1963. When combined with sales of the redesigned A-Body Valiant compact, Plymouth production totals grew by 43.8 percent over 1962. Disaster was averted.

Car owner Dan Broguiere wasn't looking for a Max Wedge car when he bought this well-preserved example in 2013. He tells us: "My brother and I have always been Chevy freaks. But when he built a Hemi-powered Dodge, it got my attention and I started looking around for a Mopar of my own." Dan spread the word and when a pal named Tony Nado called to tell him he'd discovered the blue Savoy sitting outside next to a residential Simi Valley garage, "I ran to the bank, took out the cash, and hauled ass up there and bought the car." Dan openly tells us he paid \$29,000 for the car and has spent another \$11,000 getting it right for regular street cruising.



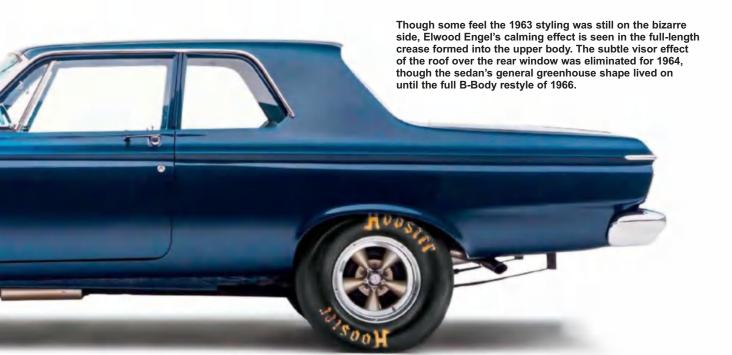


As plain as a taxicab or Aunt Millie's grocery getter, Max Wedge sedans ignored flashy bucket seats and center consoles in favor of pure functionality. The five push-buttons arranged vertically on the lefthand side of the dash pod control the 727 TorqueFlite. The year 1963 was the final appearance of the Exner-inspired asymmetrical dash layout. For 1964 and beyond, more conventional horizontal instrument clusters and dash architecture prevailed.





Bits of Exner's earlier vision can be seen in the tall ovoid marker lamps outboard of the headlamps. Before Engel tamed it, the freestanding pods were meant to tip out at a more severe angle. The hoodscoop is a fiberglass reproduction of the aluminum unit installed on '63 Plymouth and Dodge lightweights.











Despite wheel openings that look small, early B-Bodies have large wheelhouses that'll accept surprisingly wide tires. The key factor is maintaining ride height, an easy task thanks to the high arch of the MP Super Stock leaf springs.



The "orange monster" advertisements didn't appear until 1964 but aptly describe any '62-'64 Max Wedge. Though Dan's engine is made up of vintage parts, virtually everything needed to assemble a Max Wedge today is available brand new thanks to the Mopar aftermarket.





"I had a policeman pull me over. All he wanted to do was see the motor."

FROM SUPER CHARGED TO SUPER STOCK



The interior, though complete, was revived by Pomona Auto Upholstery with the stock front bench seat being re-covered in the correct material. Dan says, "The big bench seat is actually about 20 pounds lighter than the articulated bucket seats found in models like the Sport Furv. Plus. I like how the dash-mounted push-button transmission control allows three-across seating up front," not that Dan ever loads the car to its six-passenger capacity.

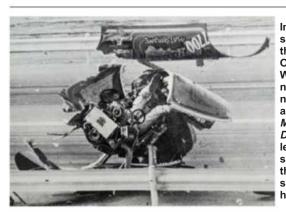
We asked Dan if he could verify the car's Max Wedge status but with its fender tag and any pertinent paperwork missing, all we can do is conclude there's a strong likelihood it's one of the 250 or so Max Wedge Plymouths built in 1963. An actual 1963 Max Wedge would display code "09" under the letters "Q" and "R" on the tag for the 11:1 compression engine or "19" in the same spot for the optional 13.5:1 high-compression, lightweight option.

Regardless of the car's roots, it's correct right down to the 10-inch drum brakes. Smaller than the 11-inch drums supplied with the optional police and H.D. suspension package (and included as standard issue on all '66-up Street Hemi and '68-up Road Runner/GTX muscle models), the light drums do an adequate job of stopping the Plymouth under normal driving conditions. Smaller details like the way the forward body wiring harness runs

along the passenger-side fender apron (instead of atop the engine), the U-curved brake line (meant to clear the upswept exhaust manifold), and manual-everything (no power steering, power brakes, or A/C were ever offered on Max Wedge cars), support the owner's claim this Plymouth was born a factory dragstrip warrior.

So what's in store for the car and its 63-year-old owner? Dan tells us: "Despite my near miss back in 1972, I campaigned a bunch of drag cars into the early 2000s, mostly GM stuff." But he says the Plymouth is too nice to race: "I still go to the Winternationals, but just to watch. Everybody's like 'run your Plymouth, run your Plymouth' but I'll never race that car. It's too nice of a car." He says, "The best part of owning this car is just driving it down the street. People look and give it a thumb's up. I had a policeman pull me over. All he wanted to do was see the motor."

That said, the throttle blades inside the twin Edelbrock 750s spend plenty of time in the vertical position as Dan's right foot mashes the pedal into the carpet. "Sometimes you have to do a little educating on the street." Dan's favorite students are the youngsters aboard Subaru WRXs and wrong-wheel-drive Hondas. Today's victims are tomorrow's converts!



Immortalized for the world to see. Dan's wild ride aboard the Herrera and Sons A/GS Opel GT at the 1972 NHRA Winternationals appeared in numerous magazines and newspapers. This shot appeared in the 1981 Hot Rod Magazine Illustrated History of Drag Racing. Those are Dan's legs flailing away behind the supercharged 392 Hemi as the fiberglass Opel GT body shreds itself to bits. Yes, he walked away.

1963 PLYMOUTH SAVOY
CAR OWNER: Daniel Broguiere • Chino, CA

ENGINE

TYPE: 426ci Max Wedge

BORE & STROKE: 4.250-inch x 3.750-inch

COMPRESSION RATIO: 11:1

BLOCK: 1962 casting, 426 TMP-HC

ROTATING ASSEMBLY: stock Max Wedge crank with flame-hardened journals and shot-peened fillets, Scat Enterprises 6.76-inch forged rods, JE forged

CYLINDER HEADS: cast-iron Chrysler Max Wedge, casting number 2402286, 2.08-/1.88-inch valves, light porting by Bob Mazzolini

CAMSHAFT: Isky solid flat-tappet, .590/.590-inch lift, 310-degrees advertised duration, COMP double-roller timing set

VALVETRAIN: Isky forged steel 1.60/1.55:1 adjustable rockers, Isky 3/8 chrome moly pushrods, Chrysler aluminum rocker shaft stands

INDUCTION: twin 750-cfm Edelbrock Performer 1407, Kramer (reproduction) aluminum velocity stacks

INTAKE MANIFOLD: cast-aluminum Chrysler short-runner (14-inch length) cross-ram

FUEL SYSTEM: high-volume Holley electric fuel pump, 3/8-inch body line, Kramer (reproduction) 5/16-inch Max Wedge fuel lines

OILING: Milodon high-volume pump, 7-quart oil pan, Milodon 1/2-inch pickup tube

EXHAUST: Chrysler Max Wedge upswept, 2-inch internal runners, 3-inch outlet, custom full-length 3-inch dual exhaust, DynoMax mufflers

IGNITION: Chrysler Max Wedge dual-point, vintage Mallory coil, MP 7mm wires

COOLING: stock 22-inch-wide radiator (tank tag number 2445635), MP high-volume water pump insert, direct-mount fan

OUTPUT: 480 hp, 500 lb-ft (owner estimate)

BUILT BY: Bob Mazzolini

DRIVETRAIN

TRANSMISSION: 1963 Chrysler 727, cable-operated, full-manual, reverse-pattern valvebody

CONVERTER: A-1 9-inch, 3,000-stall speed

SHIFTER: Plymouth push-buttons on dashboard

REAREND: 1965 B-Body 8 3/4 with 4.10 Sure Grip built by Drive Line Specialties

CHASSIS

CHASSIS: stock 1963 Plymouth, 116-inch

FRONT SUSPENSION: stock Max Wedge, no sway bar

REAR SUSPENSION: MP Super Stock leaf springs, extra-length MP shock absorbers, adjustable MP pinion snubber

STEERING: stock manual steering, aluminum steering box

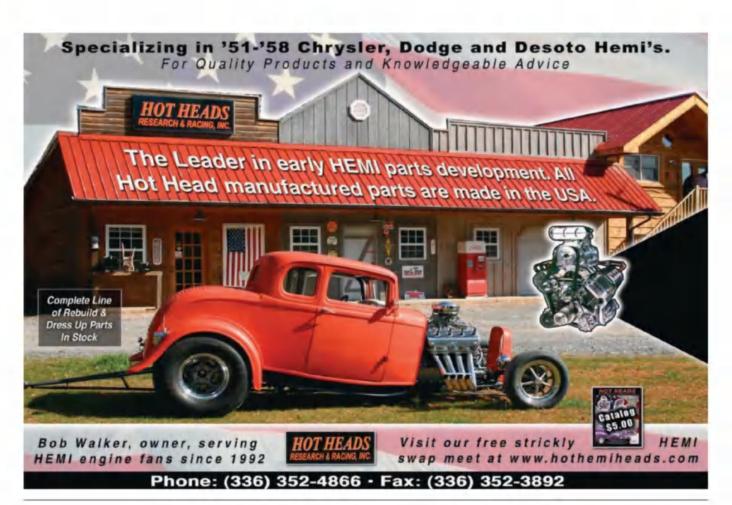
BRAKES: stock 10-inch drum brakes, non-power assist, extra-length wheel studs

CAR BUILT BY: previous owners, with fine-tuning by current owner

WHEELS & TIRES

WHEELS: 15x6 and 15x10 American Racing aluminum Torq-Thrust

TIRES: 215/70R15 Uniroyal (front), 30-9.0-15 Hoosier drag slicks (rear)



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UNDER THE

BY CHRISTOPHER CAMPBELL DPHOTOGRAPHY BY JOHN MACHAQUIERO

th M be to far

means something special in the Mopar world. That's because it was used to designate specific factory performance

packages each year. For example, in 1969 Chargers that were modified for NASCAR, the 500, and Daytona packages, were designated A11. Dodges and Plymouths that received the six-barrel treatment atop a 440 were A12. Darts and Barracudas bestowed with a 440 were A13. They really could have just stopped with the engine, since that's what most buyers were after anyway, but A-code cars also have distinctive body trim, driveline, and suspension changes. They were designed and built with specific purposes in mind.

Though they all deserve respect, the A12s were really something special. Just above the three Holley 2300-series two-barrel carbs sitting on an aluminum Edelbrock intake was a huge hoodscoop attached not to a steel hood, but a lift-off fiberglass one. That's right, no hinges or latches, just a fourpin lift-off hood standard from the factory. The A12 cars were the only ones to ever have such a hood. That wasn't just a styling point though; they were all about function. The A12 was available only as a complete package costing \$462.80. That sum got you a 390hp 440 with Magnafluxed rods, a dual-point distributor, moly rings, heavyduty valvesprings, and a special cam grind. That was backed up by an A12 exclusive



Dana 60 with 4.10 gearing and 11-inch drum brakes. Rolling stock was only 15x6 H-series (heavy-duty) steelies with no hubcaps wrapped by G70-15 Goodyear Polyglas Redstripes. Matter of fact, the only driveline option was the transmission: a 727 TorqueFlite or an A833 four-speed.

Needless to say A12s were a hit with the hot rod and drag race crowd. A total of 1,412 were built at the Lynch Road plant, of which 615 were Road Runners, but nowadays very few survive. Chalk it up to affordable hard-core performance, but most were lost to time. That, plus fond memories from Mopar lovers have led to dramatic price increases over the past few years and a lot of clones. Fortunately, it's fairly easy to spot real

ones; the package was available only on the RM21 (coupe) and RM23 (two-door hardtop) models (no convertible A12 cars were ever built), and on the body data plate the engine code is M. Of course, if you're looking at buying a real one, we suggest consulting a Mopar expert who can look it over in person and spot minutia like the specific engine wiring harness, and so on. Notwithstanding, if your plan is to build an A12 tribute car that takes advantage of the last

THIS A12 440 ROAD RUNNER TRIBUTE SURE LOOKS DEAD-ON CORRECT FOR A VELVET ROPE RESTORATION, BUT NOTHING IS FURTHER FROM THE TRUTH.



44 years of progress, any good Road Runner or Satellite will do, and that's exactly what Mark Tyrol started with.

When he was looking around for a project back in 2000 and ran across a solid '69 Satellite at the Carlisle Chrysler Nationals Car Corral for only \$3,000, there was really no debating the choice. The paint

was faded but presentable, and the 318 and 727 trans were reliable. So much so, that Mark put 50,000 miles on the Satellite over the following eight years. Upgrades were kept pretty conservative with an eye toward daily driving duties and included 3.23 gears and a Gear Vendors overdrive. And don't forget the A12-style hood!

Mark had grown up with a love of tough Mopars, starting out with his first car, a '70 340 Duster. It wasn't exactly a pristine example, but Mark and his best buddy pooled together \$600 to buy it. They worked on it together for a while, filling the rust holes and fixing the problems, but eventually Mark bought him

UNDER THE RADAR



Mark is a brave man for using white seats and door panels in a car destined for family road trips. The immaculate restoration of the instrument cluster showcases one of Mike Mancini's other business, Instrument Specialties, which is famous for insanely perfect restorations of cockpit gauges and instrument binnacles.

out and made the Duster his driver. That first experience behind the wheel of vintage muscle made him a Mopar lover for life.

But it was always the beautiful B-Bodies that Mark wanted, particularly a Road Runner. The glitz-free lightweight style appealed to him, especially the ultimate version in the form of the A12 package. Nevertheless, the higher appreciation of the Road Runner just wasn't in the budget in 2000 when the Satellite turned up for such a great deal. Mark saw the potential in the car, plus the chance to have a B-Body to enjoy right then versus waiting more years. This was going to be his foray back into hot rodding, and his first vintage car since he was a teenager.

Mark says that was one of the best decisions he ever made. The Satellite became not only a part of his life, but his family as well. "My children grew up riding in that car," Mark told us. "We took lots of trips and vacations in it, and drove it out to Carlisle several times. It's about 180 miles round trip down to Cape Cod and we went there many weekends in the Satellite." It

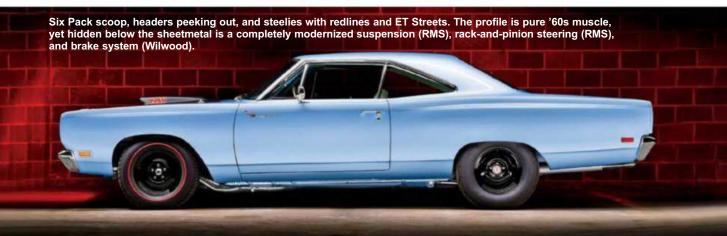
wasn't until age and mileage really began to catch up to it that Mark was finally forced to park it in 2008. The suspension and drivetrain were tired and ready to be redone. The problem was that the Satellite was at that point where everything needed to be done, and Mark just wasn't ready to take it on yet.

Building his career as an engineer by day, and getting an e-commerce business off the ground with his wife on the evenings and weekends, there just really wasn't much time leftover to devote to it. Then as things progressed and his business flourished, other projects were put in front of the Satellite. It ended up sitting for several years, but Mark never gave up on the idea of restoring it back to driving condition. As he saw his business and career take off, his vision for it began to expand.

Time was still a commodity that he had in short supply, especially since family always came first, so Mark decided to reach out to a shop for assistance to bring forth a new version of the Satellite. After

seeing some of the excellent work turned out by Mike Mancini and his crew at American Muscle Car Restorations, Mark touched base with him to restore the dash in his Superbird. Mark was pleased with Mancini's work and decided it was time to bring the Satellite in for some much needed mechanical repair and paint. Along the way, he began to discuss the concept he had brewing with Mancini. Mark still had Road Runner A12 visions in his head, but with the Mopar-specific aftermarket parts explosion of the last decade, he was beginning to think that what he really wanted and needed was a B-Body with a dual personality.













Some call it campy, but no Road Runner, tribute or not, is complete without the appropriate "meep-meep" horn.



The Arrington-sourced Gen III Hemi displaces 440 ci and has a triad of dual throttle bodies like the original A12's big-block wedge, but that's where similarities end. Output on the FAST XFI-injected mill is 630 hp and 60 lb-ft of torque—all on 93-octane pump gas. Triple deuce air valves are mounted to an Indy Mod Man intake plumbed for fuel injection.









It may be B3 Blue underneath, but if you look closely you'll see that's not paint, it's B3 Blue bedliner! Mark wanted the whole bottom of the Satellite coated for sound deadening and for long-term durability since he plans to put a lot of miles on it.

Picture walking up to what appears to be a 100 percent vintage A12 Road Runner. Looking it over up close and checking out the interior should give the impression of a high-end stock restoration. But it's all deception. Underneath the aesthetics, Mark wanted to modernize the B-Body from end-to-end: drivetrain, suspension, brakes, everything.

Mancini was onboard and helped Mark figure what the parts list needed to be. One thing that was known right off the bat: the A12 hood was staying. Underneath it, however, was not going to be the 440 6-barrel that admirers were going to expect. It would be 440 ci, but rather than a traditional Wedge big-block it was going be a stroked Gen III Hemi. The Hemi has provenance in the Road Runner as the top dog option, and obviously 440 was the given displacement for the A12, so Mark reasoned that he could combine the two and get modern driveability and reliability.

While torsion bars and leaf springs had served him fine for years, since everything needed replacing anyway, Mark decided to take the opportunity to bring it on par with the engine and bring the suspension into the 21st century. Considering that the modern Hemi swap was going to require a rethink of the engine mounts and exhaust, Mark looked into what companies offered complete front suspension packages that

were compatible. Reilly Motorsports' AlterKtion package fit the bill nicely since it offered a Gen III—ready swap with QA1 adjustable coilovers. For the rear, Mark opted for Unlawful Racing's triangulated four-link with AFCO adjustable coilovers. With a package like this, road trips would be even more enjoyable.

Through collaborating with Mancini the rest of the build started to get fleshed out; a return to the stock B3 Blue paint, modern redline tires, mostly stock interior in blue and white, and so on. The most important thing for Mark was making sure all of the upgrades felt like they belonged. Well, perhaps the second most important thing: everything had to be as reliable as a new car because Mark intended to put the Satellite back on the road in a big way.

But first, he decided to grab a few trophies with it. So far, the Satellite has earned gold and platinum judges' awards at the MCACN show and First Place in the modified B-Body class at the Ohio Nationals. Those are great things, and Mark has a handful of shows he still wants to attend with the Satellite, but that's not what he's looking forward to the most. When we chatted on the phone with him, the thing he kept coming back to was getting it out on the road with his family and driving it, just like the old days. There are already trips to Cape Cod planned,

FAST FACT

1969 PLYMOUTH SATELLITE Car owner: Mark Tyrol • Mansfield, MA

ENGINE

TYPE: 440ci Arrington Performance Gen-III Hemi

BLOCK: 6.1L

ROTATING ASSEMBLY: forged 4340 K-1 crank and rods with 11.3:1 MAHLE pistons

CYLINDER HEADS: 6.1L with Arrington Performance Stage 4 CNC

CAMSHAFT: Arrington Performance grind #648

VALVETRAIN: 2.07-/1.57-inch valves with PSI springs and COMP Cams pushrods

INDUCTION: F&B Engineered Products progressive 6-bbl with three billet throttle bodies and -8 AN fuel rails

EXHAUST: TTI ceramic-coated headers, 3-inch exhaust with X-pipe and Dynomax Super turbo mufflers

IGNITION: stock 6.1L coils

COOLING: Performance Rod & Custom radiator with dual electric fans

OILING: Charlie's Oil Pans, Melling high-volume pump

OUTPUT: 538 hp to the wheels at 6,250 rpm, 469 lb-ft of torque to the wheels at 5,250 rpm

BUILT BY: Arrington Performance

DRIVETRAIN

TRANSMISSION: custom-built TKO-600 fivespeed with carbon-fiber synchronizer blocker ring upgrade, hydraulic clutch, Pro Touring Stage 3 clutch, Hurst shifter

DRIVESHAFT: custom built

REAREND: Dana 60 with posi diff and 3.54 gears

CHASSIS

FRONT SUSPENSION: RMS AlterKtion street handling package with QA1 adjustable coilovers

REAR SUSPENSION: Unlawful Racing triangulated four-link with AFCO adjustable coilovers

STEERING: power rack-and-pinion

BRAKES: Wilwood 11-inch four-piston with Hydratech Hydro boost system and Wilwood master cylinder

WHEELS & TIRES

WHEELS: 15x7 and 15x10 steelies

TIRES: 225/70 Diamondback Classic HR Redline Radials and 275/60 Mickey Thompson ET Street

and even longer ones. And the big one? A cross-country family road trip to the Grand Canyon! The master plan is to drive it, enjoy it, and some day pass it down. Maybe it'll be worn out again by then and need another rebuild. We're pretty sure Mark would consider that an ideal situation.



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yet allow stock gas tanks to fit. Lower links bolt into stock leaf spring location with the included adjustable front mounts, or links can be used in conjunction with standard inboard relocation kits and mounted under the frame rails for increased tire clearance. Includes Viking Double Adjustable shocks, standard.

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HOT PARTS

BY JOHNNY HUNKINS

2014-UP CHARGER/CHALLENGER:

BIG BRAKE UPGRADE
Wilwood recently sent over the announce-

Wilwood recently sent over the announcement for their new 2014-up Dodge Challenger/Charger brake upgrade (PN 140-14067). The Aerolite six-piston radialmount calipers are paired with 14.25inch Spec 37 alloy directional-vane two-piece drilled and slotted rotors, or GT competition series rotors with face slots. Price for the front system starts at \$2,021.59. So if the Helicat already comes with 15.4-inch six-piston calipers, who exactly would benefit? The answer is the standard Challenger/Charger (with 12.6-inch rotors and single-piston calipers), Challenger/Charger R/T models (which have 13.6-inch rotors and two-piston calipers),



and even Scat Pack 6.4L Challenger/Charger (with 14.2-inch rotors and four-piston calipers). If your non-Helicat Charger or Challenger is destined for the road course, these Wilwoods would be perfect. They also make a four-piston system for the rear!

SOURCE: WILWOOD

805-388-1188 . www.Wilwood.com

B- AND RB-SERIES BIG-BLOCK: NEW ELITE II VALVE COVERS

Edelbrock

Edelbrock has just rede-

signed their long-running Elite valve cover for the blg-block Chrysler. Originally designed in 1985, the Elite has had a great production run, but the folks at Edelbrock really wanted to bring the design into the 21st century to better reflect improvements in valve-train technology (the Elite II is now 3,62 inches deep) and styling. The Chrysler big-block version (383/440) is now available as PN 4276, and features an all-new streamlined design, polished heavy-gauge die-cast aluminum, and gloss black accents between the fins.

SOURCE: EDELBROCK

www.Edelbrock.com

DRIVELINE TECH: CARBON-FIBER DRIVESHAFTS

Not everybody needs a carbon-fiber driveshaft, but if you take the performance of your hot rod seriously (vibration, weight, performance, and/or on-track safety) you may want to pay attention to this. QA1 now offers custom-length 3.2-inch diameter carbon-fiber driveshafts in two versions: a 750hp/500 lb-ft 1310 U-joint application (\$1,095), and a 2,000hp/1,500 lb-ft 1350 U-joint application (\$1,595). QA1 builds them in-house using proprietary tools, processes, and the best materials, including 3M Matrix resin with spherical nano-scale silica. After balancing, all QA1 carbon-fiber driveshafts undergo rigorous testing, including harmonics (natural frequency) and modal analysis (NVH). For those wanting more information, we seriously recommend watching QA1's short YouTube video "The Construction Of QA1 Carbon Fiber Driveshafts," which is both informative and impressive.

SOURCE: QA1 800-721-7761 www.QA1.net



OVERDRIVE TRANSMISSION: KEEP YOUR TORSION BAR CROSSMEMBER

We know how bad you want to keep your Mopar all-Chrysler—right down to the transmission—but there are very few choices unless you want to cut up your torsion bar crossmember or turn your floorpan into an origami project. One intriguing idea that's been tried before but not perfected until now is the Hydramatic 700-R4 swap. American Powertrain, known normally for their slick five- and six-speed manual Tremec kits, has pulled the wraps off their Super Shift Overdrive kit, which uses a tried-and-true 700-R4 four-speed automatic overdrive with lock-up.

A complete Super Shift Overdrive kit starts at just \$3,495, and includes every last nut and bolt you need to hit the street—that means the engine block adapter (B, R/B, LA, and all generations of Hemi), torque converter (choice of stall speeds), flexplate, crossmember, driveshaft, stock-look shifter, TV cable, speedo cable, trans cooler, and detailed instructions. You'll end up with a .70 final overdrive ratio, converter lock-up, and best of all, stock floor pans and an unmolested torsion-bar crossmember. No cutting, no fabricating, no welding, just do it in a weekend. Kits are available now for B- and E-Body, with A-Body available soon.

SOURCE: AMERICAN POWERTRAIN

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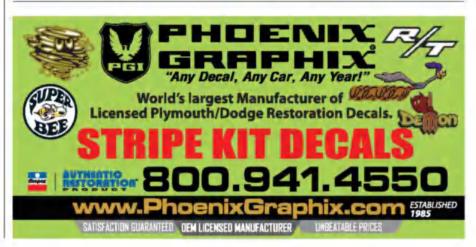












PERFORMANCE CLINIC

STEVE DULCICH, CONTRIBUTING EDITOR

BUILDING MY 318

I have a classic Mopar that most people would overlook. The car is a '70 Dodge Dart, and that might be cool to a lot of Mopar enthusiasts, but my car is just a 318-powered four-door sedan. I don't care that it is a four door, and actually kind of like it. It sure isn't as sleek and sporty as a hardtop coupe, but it is every much the same car. I think it would make a great hot rod, even with the stock

green paint and basic drivetrain. It is just a base small-block, two-barrel, with an 8 1/4 rear and two-something gears. These motors were rated at 230 hp gross, but I think that is optimistic. From research on the net, similar later 318 engines were well under 200 hp net. I also found quite a few 318 builds that pumped these engines up to over 400 hp. I don't need that much, but want to make my Dart get up and go.

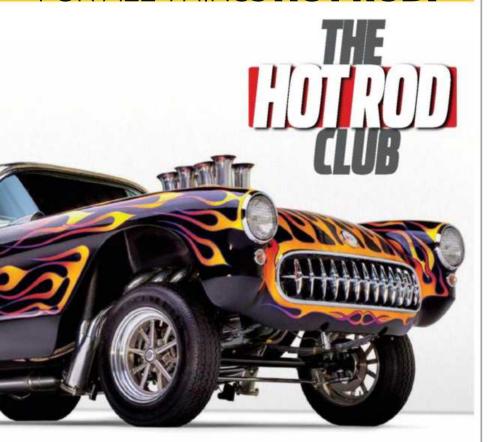
I think as the years go by, the stigma associated with a four-door car is starting to go away. This was a real grandma car, with the crochet afghan over the seats, and less than 75,000 miles on the clock. I have been daily driving this relic for the last year, and I have to guestion whether the pure vehicle utility of this car has ever been exceeded. It has needed nothing in parts, and gets over 20 mpg in driving when I am easy on the pedal. I like the economy, but I am willing to give some of that up to make more power and make this thing fast. By today's standards, this is a very light car, so I don't need the power of a new R/T Challenger to do the damage. It doesn't even need to be a fast drag car for my purposes. I don't care about the converter and gear to rip off the line. I just want it to rocket away when I slam the pedal down into passing gear. Let me know what you would do with it.

SAM GRAYSON

Sam, that low-mileage Dart was quite a good find, and I wouldn't be ashamed that it is four-door car. Performance-wise. the 318 has a lot of room for improvement. In stock form the 318 falls far short of its performance potential. Where does the 318 fall over? The stock 318 heads, with the exception of the later four-barrel heads, are all small-port assemblies, with paltry 1.78-inch intake and 1.50-inch exhaust valves. Head flow in stock form is poor. Next, typical 318 pistons are of the flat-top variety, but are anywhere from .050 - .090-inch negative in deck height at TDC, producing a low compression ratio. Finally, we have the camshaft, with the most common grind lifting the valve a meager .373/.399 on the intake and exhaust, and only keeping them open with a gross SAE duration of 240/240 degrees. That is a tiny cam. Take such an engine. and dress it out with two-barrel induction, and small restrictive iron exhaust manifolds, and it's easy to see why performance has never been a strong point with a stock 318. In summary, you are dealing with poor flow on both the intake and exhaust sides, and low compression on top of that. The factory SAE net rating on stock 318s from 1972-1988 varied between 120 and 175 hp.

To make power from the 318, you are going to need to address these deficiencies one by one. The miniscule cam problem is easy to solve. How much bigger you go depends on how far you are willing to go with the rest of the combo. If you are sticking to bolt-ons, the compression ratio

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is going to be the limiting factor, and you do not want to over-cam a low-compression 318. Something with a duration in the 214-224 range on the intake side is as big as you want to go with relatively low compression. The flow system is another biggie. Headers are a huge boost, and improved heads are also a big power gain. Watch the chamber volume here, especially if you are just contemplating a bolt-on package instead of a full build with higher

compression pistons. You want to gain compression with a head swap, not lose it. Of course, the manifold and carb are also an area where big gains can be had on any two-barrel 318. Unless you are going all-out with a ground-up high-performance, high-rpm build, a two-plane intake is the way to go.

With the 318, virtually any performance modification will yield good results, mainly because of its original mild configuration. With a set of factory Magnum or

milled 360 heads, a mild cam, four-barrel induction, headers and duals, and a good tune, you can expect to double the output.

SAFETY LINK

I have a '70 Dodge Challenger that is not quite restored, but is a presentable street machine. Recently, I had a huge problem that could have been much worse. The car has mostly original wiring, and after all these years it has seen a lot of repairs. For the last two years, everything has been functional, but then one night disaster struck. I was driving on the interstate when I smelled the distinct odor of burning electrical. All at once, the interior filled with smoke and everything went dead. Luckily I was able to pull over, and I popped the hood and pulled off a battery cable. Everything calmed down at that point, and my car did not burn to the ground.

I had the car towed home and then dug in to find what happened. The wiring to the ammeter had grounded, and someone had replaced the fusible link with a crimped 12-gauge wire. I just wanted to warn other Mopar fans of the importance of this safety feature. In a dead short situation, the fusible link will burn to an open circuit, stopping the flow of power into the electrical system. With the bridge wire I had, the power poured into the car, and would have continued to supply amperage until either the conductor itself burned through or the car caught fire and burned to the ground. I ended up having to pull the entire dash assembly and install all new harnesses right into the engine bay to fix it right. It could have been a lot worse if I wasn't able to disconnect the battery in the nick of time.

GREG MASON

Greg, I have to congratulate you on the quick thinking and fast work disconnecting the battery. I have heard too many stories of electrical fires ending much worse. Patched and spliced wiring is always a risk, and that risk becomes an outright danger if there is no means to interrupt the current in the event of a dead short. The factory fusible link is a crude way to provide for this fail-safe. If a non-stock appearance is not an issue, another option is to add a resettable circuit breaker in the main power feed.

GO DOMINATOR

I have a '70 Duster that is primarily a drag car. The engine combo is a '76 440 stroker that is now 500 inches, with







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Indy-1 heads, an Indy single-plane, 950 Holley carb, 13:1 compression, and a 0.680-lift-solid-roller cam. I was wondering if I should be running a Dominator carb on this car. I have an 1150 that I picked up from a buddy, and am thinking of trying it. Do I get a new intake manifold, or use an adapter? The adapter that I can get is about 2 inches tall, and may not fit under my scoop.

FRANK ANGELO

Frank, on a combo like yours you may see a 20-plus horsepower gain with the 4500-series carb. Since you already have the carb, you may as well run it. A nicely blended tall adapter like you suggest can work extremely well, but if hood clearance is going to be an issue, a manifold swap is going to be part of the game plan.

WANTS GEAR

My project is a '69 Plymouth Satellite, which was originally just a plain 318 automatic. I never like automatic transmissions in my performance cars, so decided to go four-speed. I installed an 833 B-Body trans, and got the pedals, linkages, shifter, bell, and a Centerforce clutch. I swapped to a big-block at the same time. The engine is just a simple 440 with flat-top forged pistons, the stock crank, mildly ported 452 casting heads, a Holley Street Dominator intake, and a Hughes hydraulic cam. The car runs great, and I couldn't be happier about the power the engine puts out.

When I built the car I went with a Dana 60 rear. My gear choice was 3.54 because I figured that would keep the revs down compared to running 4.10s. Even with the higher gear, this thing seems to just rev too high for my liking. I don't really race the car. I like to cruise in the Satellite and my goal is to take it to shows all around the local tri-state area. I have considered the options, and am not too excited about the idea of swapping to another type of trans. My car is all set up for the stock four-speed, and I really do not want to tear the interior back out of it or start making modification to the floor and chassis. I know Chrysler built some overdrive 833 transmissions, but I understand that they are not heavy duty enough for a big-block. What would you recommend? I just hate driving the car on the open highway, with the engine revving its guts out and getting passed by everyone.

MONTE GREELEY

Monte, there were overdrive versions of the 833, both in short- and

long-extension housing versions. Most of these transmissions were manufactured with aluminum main cases, and all were 23-spine input. They also used a floating countershaft arrangement that was a weak design. Used gingerly, it would survive behind a big-block, but hammer on it and you will find the weak points. Also, these transmissions came with a low First gear, making the jump to Second gear really wide, almost like skipping a gear.

An alternative approach to getting overdrive is to add an overdrive gearset to your existing transmission. The internal gear of the 833 works with a one-piece counter gear cluster, which essentially required replacing all of the gears to change the internal gear ratios. Passon Performance has a gearset for the 833 that gives it an overdrive ratio, and tightens up the ratio spread to make it much more usable in a performance application than the factory overdrive transmission's ratios. It even upgrades the input to a heavy-duty 18-spline arrangement, as originally used on 440 and later Hemi cars.

KICKDOWN QUESTION

I have a 904 TorqueFlite transmission, which should have had a mechanical kickdown linkage in my '69 318 Plymouth Valiant. The linkage was lost when the car was apart, and I am pretty sure it was thrown away. There are no old cars like this anywhere around in the wrecking yards. Is there any way I can get away without hooking up the kickdown linkage? For example, can I just push the kickdown lever about three-quarter the way back and lock it in place? We are just looking to keep it simple and as cheap as possible. My dad has been reading your magazine for 15 years and doesn't recall seeing anything like this before.

TONY MORENO

Tony, the whole idea of the kickdown is to have a variable pressure input into the transmission. Tying it back will just make the trans think you are three-quarters of the way into the throttle all the time, which will upset the upshift timing at low speed or throttle opening. At wide-open throttle, it will think you are at three-quarters throttle and the trans will upshift too early, with not enough system pressure.

The mechanical kickdown system was actually very good, being simple, sturdy, reliable, and functional. Many vendors now carry a wide selection of factory-style kickdown linkage parts, and there

are also cable retrofit systems on the market. With a little custom work, just about any kickdown arrangement from practically any Mopar application can be modified and adapted to work perfectly on another application. Taking this approach, you can just get the kickdown off any later Mopar car or truck, and with some fabrication skill adapt it to your 318 Valiant for next to nothing.

REPLACING EFI

I am planning to replace the factory TBI on my '89 D100's 318 engine as part of a major overhaul. The truck is a work/daily driver. Since I am planning to change the cam to a bigger towing roller cam and replacing the innards with a 4-inch stroker crank kit, I think the best way to go is with the MSD Atomic EFI.

During my research I learned that the factory TBI system only requires 14 to 20 psi of fuel pressure to work, but the Atomic system requires 45 psi of regulated fuel pressure. Will the stock fuel pump in the tank and stock delivery system in my truck be capable of delivering the required pressure and quantity of fuel to the new EFI system? Will I have to upgrade the pump? If so, with what?

DAVID B. GARRETT

David, the stock fuel pump will not provide the required pressure. The Atomic kit will come with a replacement fuel pump that delivers the operating pressure needed. Your OEM fuel delivery system will be up to the task, and if you prefer, you can easily upgrade it to a higher pressure spec with a fuel pump change. An OEMstyle Bosch in-tank replacement pump for a higher pressure multipoint EFI system can be readily installed in place of the factory pump, or another option we like is a compact, high-volume Stealth pump from Aeromotive.

GOT A TECHNICAL QUESTION YOU NEED HELP WITH?

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